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AGRICULTURE

No. 195

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CHINA REPORT

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AGRICULTURE VICE MINISTER OUTLINES PREMISES FOR FUTURE DEVELOPMENT

Hong Kong CHING-CHI TAO-PAO [ECONOMIC REPORTER] in Chinese No 6, 15 Feb 82 pp 16-17

[Article: "Situation and Trends in China's Agriculture. China's Deputy Minister of Agriculture, Liu Ruilong [0491 3843 7893] Replies to Questions From This Journal's Reporter"]

> [Text] Editor's Note: In this article, China's deputy minister of agriculture, Liu Ruilong, mostly explains and elaborates on three main questions (in reply to questions from this journal's correspondent) as follows: (1) Development of China's agriculture has entered a new historical stage of development and the situation is very good, but development is unbalanced. (2) Hastening of the development of agriculture requires, first, reliance on policies and, second, reliance on science. (3) What is meant by Chinese style agricultural modernization.

The Transformation of Rural Villages and the Situation in Agriculture

Question: Please tell us the situation in China's agriculture.

Answer: Following the Third Plenary Session of the 11th Party Central Committee, China readjusted its rural policies and corrected the "leftist" errors of the past. It conducted necessary readjustment of production relationships, and restructured the organization of labor, the method of remuneration, and farming methods. It destroyed the former situation of over centralization of management, blind guidance in production, egalitarianism in distribution, eating out of a "common pot," and various inequitable burdens. It established and perfected various forms of a system of responsibility for production, took firmly in hand development of economic diversification, effectively aroused the enthusiasm of the broad masses of peasants, and impelled China's agriculture toward a new period of historical development.

Question: What are the main indications that China's agricultural situation is very good?

Answer: The main indication is all around increase in outputs. The area sown to grain last year was 50 million mu less than two years ago, and quite a few provinces sustained severe natural calamities; nevertheless, total grain output achieved the levels of the previous year, making it the second highest year for output since the founding of the People's Republic. Output of cotton, oil-bearing crops, and sugar increased over 2 years ago, and other economic crops, and sugar increased over 2 years ago, and other economic crops were able to exceed or fulfill plan. Steady growth took place in the livestock industry, outputs of hogs, cattle, sheep, and goats increasing. Commune and brigade enterprises continued progress in the midst of reorganization. Both forestry and the fishing industry also had new growth. Peasant income increased; life improved further, and in an appreciable number of areas that have long been poverty stricken, the problem of having enough to wear and getting enough to eat has been solved. The overall situation in rural villages today is political stability, economic prosperity, contented production, worry free production, and diligent production. This is a fundamental change.

However, we have noted that development of the rural situation has not been balanced, that the foundation for agriculture has not been consolidated, and that we are a considerable distance away from being "over the hump." Consequently sustained and steady agricultural development will require great efforts.

Question: What are the favorable factors in sustained and steady development of China's agriculture?

Answer: After 3 years of readjustment new trends and new factors have emerged in China's rural villages that are beneficial for agricultural development.

First, the enthusiasm of both the collectives and individuals has been aroused, and a situation has come about in which the collective, individuals, and the state are all moving upward together. This is a basic element in the sustained and steady development of agriculture. Factors advantageous to development of agriculture in the peasant family economy, in particular, things such as cooperative efforts among families, private plots, small amounts of peasant family funds, and small farm implements were formerly restricted in the role they would play. Now, however, they have been emancipated and are playing an increasingly larger role. Individual welfare and collective welfare are closely combined, and arousal of individual commune member enthusiasm is closely linked to the full play of superiority of collective unit farming, which are our most fundamental experiences in the development of agriculture since founding of the People's Republic. During recent years, the various rural policies of party and government have stressed adherence to the principle of voluntary participation and mutual benefit with the object of arousing these two enthusiasms.

Second, China's agriculture is moving away from the singular role as a grain growing industry to which it has been limited to economic diversification, with all around development of farming, forestry, livestock raising, sideline occupations, and the fishing industry. People have gradually come to realize that all around development helps make full use of China's abundant workforce resources and natural resoruces, helps make the most of multiple economic benefits in every field, helps provide more agricultural byproducts for society, helps enliven the economy, and helps the stable and healthy development of agriculture as a whole.

Third, peasant enthusiasm for the study of science and the application of science is being raised. Regions in which farming had formerly been done in a careless way are now developing in the direction of intensive farming, and the level of intensive farming in high yield areas is continuing to rise. During the past 3 years, the area sown to grain throughout the country has declined by more than 100 million mu, yet grain output increases year by year. Cotton output also increases year by year. This is the result of intensive farming, which has raised yields per unit of area.

Fourth, accompanying development of economic diversification has been an increase in agricultural byproducts, increasing peasant prosperity, expansion of exchanges of goods between cities and the countryside, and rather rapid development of city and rural collective commerce and individual businesses that function to agument state owned and collectively owned businesses. Production of rural goods and exchanges of goods are now in process of surmounting obstacles to win further development.

Development of Agriculture Through Reliance on Policies and Science

Question: In his work report to the National People's Congress, Premier Zhao Ziyang noted that acceleration of agricultural development requires reliance on policies and science. What are your views on this?

Answer: This is the summation of many years experience. The state intends gradually to increase investment in agriculture, but it cannot be very much. Consequently development of agricultural production and moving forward with rural construction requires continued reliance on policies and on science. This is because both hold an extremely huge potential. Reliance on policies and on science holds the hope and the potential for future development of agriculture in China, and is also the object of our efforts.

Question: Please explain the significance of reliance on policies.

Answer: Many years experience, particularly the experiences of the past 3 years, attest that correct policies have played an outstanding role in arousing enthusiasm among the broad masses of peasants. We firmly believe that among the broad masses of peasants exists an extremely great enthusiasm for socialism. The peasants demand adherence to the path of socialist collectivization of agriculture, and support public ownership of the means of production such as land. The peasants call for readjustment of production relationships and institution of various forms of a system of responsibility for production, and in so doing do not divorce themselves from socialism or the socialist system of public ownership. Rather, they demand elimination of the influence of past "leftist" errors of overcentralization, blind guidance, egalitarian "eating out of a large common pot," and inequitable burdens of various kinds that fettered them. Therefore, when the party responds to the demands of the broad peasant masses, guarantees and respects the autonomy of production teams, institutes various forms of a system of responsibility, and develops economic diversification, the enthusiasm of the broad masses of peasants rises rapidly. The State Council has already made clear that adherence to the path of socialist collectivization and the system of public ownership of the means of production such as land will remain unchanged for a long period of time, and adherence to the practice of systems of responsibility for production in the collective agricultural economy will not change for a long time. Efforts will be made to improve upon and perfect the various forms of a system of responsibility for agricultural production and various rural economic problems. On the issue of systems of responsibility in agricultural production, the principles of "adaptation of general methods to local situations and tailored guidance" must be upheld to permit diverse forms. In addition, it is necessary that all quarters also give attention to improving the economic benefits of agricultural production.

Question: In what areas has state support to agriculture been manifested?

Answer: First, in protection of the peasants' vested interests, in stable policies, in not lightly changing effective prevailing economic policies.

Second, in guaranteeing the use in agriculture of state investment in agriculture, with no diversion to non-agricultural purposes.

Third, in guaranteeing to supply the means of production and the means of livelihood, in opening numerous channels for trade, in planned development of collective rural businesses, in operating rural free markets, and in enlivening exchange of goods between cities and the countryside, the products produced by the peasants thereby being converted to commodities, and the industrial products required by or used in the daily life of rural villages being able to satisfy demand.

Fourth, in vigorous development of the small farm implements and hand tools so urgently needed in rural villages, and improvement in production of tools and semi-mechanized tools to satisfy peasant needs. Readjustment of inequitable use of nitrogenous, phosphate, and potash fertilizers through increase in phosphate and potash fertilizer production.

Question: Please also explain the significance of reliance on science.

Answer: Use of modern agricultural science and technology to equip agriculture, and putting agricultural production techniques and economic management on a scientific foundation are prerequisites for accelerating development of agriculture and promoting the modernization of agriculture. Premier Zhoo's report provided a consummate explanation of this. The goal in reliance on science by agriculture is to have China's agriculture take the path of small investment for fairly high economic benefits. In order to do this, we have to place research on and spread of agricultural science and technology in a major position, linking the fruits of modern scientific and technical research to China's superior tradition of intensive agriculture, to wrest from nature the large amounts of agricultural products we require.

Chinese Style Modernization of Agriculture

Question: In his government work report, Premier Zhoo Ziyang noted that simultaneous with development of the entire agricultural economy must be consideration of and provisions for rural construction. What are your views on this?

Answer: I believe that across the board consideration has to be given agricultural production, rural construction, and the peasants' livelihood. This involves the entire agricultural process, i.e. it includes the three-part needs of agricultural production's preliminaries, production itself, and follow-up. Preliminaries include improvement in conditions for agricultural production, equitable arrangements for workforces, and supply of the means of production. Production itself includes the science and technology and management methods needed for production in farming and livestock raising. Follow-up includes processing, storage, transportation, commodity exchange, banking, and credit involved for agricultural pyproducts. Secondly, consideration must be given the total livelihood needs of the peasants, most notably their needs for food, clothing, shelter, items needed in daily life, travel, education, and personal cultivation. In this way, consideration can be given both to production and to livelihood. In addition, rural construction and building of the national economy as a whole must be considered together. I believe that rural construction should provide good conditions both for agricultural production, and provide good production conditions and living conditions for agricultural producers and residents of rural areas, and should, at the same time, provide good conditions for development of the national economy as a whole, and for equitable distribution and deployment of productive forces. To this end, for development of the needs of agricultural production and for the needs of rural village people's livelihoods, a combination of building of rural material civilization and spiritual civilization, plus coordination with needs for development of the national economy as a whole, and all around planning of rural construction is very necessary.

Question: What is the program for development of China's agriculture?

Answer: Our program is active development of economic diversification without any let up whatsoever in production of grain. The first requirement is equitable use of existing cultivated land, plus a determination to make gradual, equitable, and full use of mountains, hills, grasslands, rivers, lakes, ponds, coastal beaches, and sea areas, plus greater all around development of the rural economy to assure comprehensive growth of the national economy. This is also the fundamental strategy under present circumstances for development of China's agriculture.

Question: What problems should China watch when studying longterm development needs of agriculture?

Answer: We must take a Chinese style path of modernization, and walk the path of socialist modernization of agriculture. We are determined to walk a new path of comparatively rapid economic development, comparatively good economic results, and greater material benefits for the people. This is the total basis for our future planning.

Second, we must also assimilate our own experiences. We must purposefully study foreign science and technology and advanced economic management methods of use to us. However, we positively cannot repeat or adopt for use the tortuous roads and inherent maladies of others. The so-called "energy intensive agriculture" requiring high investment and high energy consumption to derive agricultural products that is practiced abroad creates serious environmental pollution and lopsided development, which we should be careful to avoid.

Third, agricultural development in all countries faces common requirements, but there is no common model. The so-called common requirements are modernization of technological equipment, scientific production techniques and management methods, and socialization and specialization of labor engaged in production. However, progress in development of agriculture differs from country to country, and we cannot rigidly copy the various different models. Therefore, we must formulate, on the basis of China's own situation, the long range plans and the various programs and policies for agricultural development.

Question: What is the substance of China's situation?

Answer: Deputy Chairman Chen Yun made a penetrating capsulization of China's situation, namely that a series of characteristics ensue from having "a population of 1 billion, 800 million of whom are peasants." In terms of China's agriculture as a whole, this results in two basic characteristics: One is a small average per capita amount of cultivated land, but numerous mountains, water surfaces, vast grasslands, and fairly abundant natural resources. Second is antiquated technical facilities, but abundant workforce resources. Development of China's rural economy must, therefore, proceed from these realities.

Question: What is Chinese style modernization of agriculture?

Answer: By the so-called Chinese style is meant setting the goals, policies, steps to be taken, and emphasis of development of China's agriculture on the basis of China's natural resources, economic foundation, technological level, and on the basis of needs of national economic and agricultural development. Thus the Chinese style modernization of agriculture has to proceed from China's circumstances and requirements, use modern science and technology and socialist industry to equip agriculture with two kinds of public ownership, put agricultural production technology and economic management on a modern, scientific footing, build an equitable agricultural economic structure, and production pattern, and a fine cyclical agricultural ecological system, build a flourishing agriculture with all around development of farming, forestry, livestock raising, sideline occupations and fisheries, and prosperous rural villages in which agriculture, industry, and commerce are integrated so as to derive highly developed land productivity rates, labor productivity rates, commodity rates, and employment rates. Modernization of China's agriculture is also a process of economic development and technical reform. As Premier Zhao said in his report, China's workforce resources are abundant, but capital is inadequate; for a fairly long time to come, there can be no total demand for reliance on new technology or a lopsided seeking after automation. Thus, the relationship between modern science and technology and China's fine traditions will have to be handled well to modernize China's traditional techniques and to Sinify modern foreign science and technology.

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SEVERAL NEW RICE VARIETIES DESCRIBED

Beijing NONGCUN CONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 12, 5 Dec 81 p 23

[Article by Zeng Sui [2582 4482] and Huang Zhongyin [7806 0022 8337]: "Introduction of Several Superior Rice Varieties"]

[Text] Chaogui

Chaogui is a superior variety bred by the Guangdong Provincial Academy of Agricultural Sciences. Plant height is about 100 centimeters; stems are sturdy; leaf color is dark green; root system is well developed; absorption power is strong; adaptability in fertile fields is fairly broad; proness to close rows in the early stage of growth; high light energy utilization rate and light content [0342 0698] efficiency rate. Panicles are large and numerous; grains are heavy; colony structure is good; and per thousand weight of grains is about 25 grams.

Weaknesses are: Poor disease resistance. Grown as an early crop, prone during early and late stages to blast of rice, rice neck blast, and bacterial blight. Grown as a late crop, prone during the early and late stages to red bacterial blight and bacterial blight. Poor tolerance of cold, of drought, and of heat. In growing Chaogui, comprehensive prevention and control measures have to be taken. In areas in which blast of rice, bacterial blight, and natural disasters frequently occur, it should not be grown.

Hong 410

Hong 410 is an early ripening high yield superior variety bred by the Tongan Superior Variety Farm in Fujian Province. This variety has short, thin stems; colony structure is good; tillering is strong; leaf color is dark green; root system is well developed; panicles are short; heads are numerous; effective panicles number between 300,000 and 350,000 per mu, each panicle contains about 60 grains; grains are plump; and the per thousand grain weight is 28 grams. Weaknesses are a low rate of polished rice and fairly poor rice quality. It is fairly sensitivie to temperatures, and will not tolerate low temperatures between the booting and panicle formation stages. It shows poor resistance to disease, being prone to rice blast, sheath and culm blight, and purple stem [4793 4427] blight, the incidence rate of which is rather severe. It is also prone to rice stem borer, leaf roller, and leafhopper infestations.

Guangluai No 4

Guangluai No 4 is a superior variety successfully bred by the Guangdong Provincial Academy of Agricultural Sciences. Plant height of this variety ranges from 80 to 85 centimeters; stems are thick; leaf blades somewhat broad, short and thick; and leaf color is dark green. During the seedling stage, it tolerates cold; its tolerance of drought is strong; it tolerates fertilizer and resists lodging; has a high tillering and panicle formation rate; and grows evenly. Fruiting rate is generally around 90 percent; the paddy is round and plump; per thousand grain weight is about 26 grams; polished rice rate is high; and polished rice quality is intermediate. Weaknesses include too premature degeneration when grown in places where the water table is high or the soil heavy. Its requirements for fertilizer are large, and in addition to sufficient base fertility, it requires heavy applications of fertilizer, with early tillering fertilization to promote early and rapid growth. It is prone to yellow dwarfing and bacterial blight, and is also subject to leafhopper and rice stem borer infestations against which timely prevention and control work must be done.

Late Crop Aigeng 23

Aigeng 23 is a late ripening late geng variety bred by the Zhejiang Provincial Academy of Agricultural Sciences. Plant heights range from 85 to 90 centimeters; plants are rather compact; growth is delicate; structure of stems and leaves is equitable, light being able to penetrate directly to the base of plants; the root system is well developed; making for absorption of water and fertilizer; stems are tough and tensile; it is tolerant of fertilizer and resistant to lodging; it may be close planted, and it shows fairly strong resistance to bacterial blight. Panicles are between 14 and 16 centimeters long; grains cluster fairly closely together; per thousand weight of grains is about 25 grams; and polished rice rate is between 82 and 85 percent. Its weaknesses include proness to rice blast, necessitating intensification of of preventive measures in seedling beds and open fields during the seedling stage, and it is prone to leafroller and aphid infestations.

Early Rice Qingganhuang

Qingganhuang is a late rpiening early xian variety bred by the Zhejiang Provincial Academy of Agricultural Sciences through the crossing of Guangluai No 4 with Longge 16. Plant height is about 78 centimeters; plants are compact; leaf color is light green; seedlings grow evenly; tolerance of cold is fairly strong; each panicle contains about 65 grains; fruiting rate is approximately 82 percent; per thousand grain rate is 22 or 23 grams; and it shows fairly great flexibility in fertility requirements. When grown under conditions of medium to low fertility, extent of yield increase is fairly great; when grown under conditions of adequate fertility, it is better able to make the most of its potential for increased yields. Its weaknesses are fairly weak tillering strnegth, necessiting provisions for closeness in transplanting and increased number of transplanted clumps so that numbers of panicles and numbers of grains will be accordingly regulated. It is fairly prone to brown leaf blight, which requires intensification of fertilizer and water management, controlling the amount of nitrogenous fertilizer given in the late stage. When disease is spotted, pesticides must be used at once to control it.

Zhongdan No 2

Zhongdan No 2 is a new rice variety bred by the Crop Institute of the Chinese Academy of Agricultural Sciences in cooperation with the Dandong Agricultural Institute in Liaoning Province. The seedling age requirements of this variety are not strict; plants are compact; plant height runs from 100 to 105 centimeters; stems are tough and tensile; resistance to lodging is strong; panicles are 22 centimeters long, each panicle containing about 120 grains, the per thousand grain weight of which is 27 grams. It is strongly resistant to blast of rice and medium resistant to bacterial blight. It is early ripening; widely adaptable; has a high polished rice rate, with rice of good quality, the polished rice rate being 82 to 83 percent. Its shortcoming is fairly weak tillering strength. When transplanting seedlings, one must be sure to maintain a basic number of seedlings.

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PRESENT, FUTURE ROLE OF RURAL ENTERPRISES DISCUSSED

Hong Kong CHING-CHI TAO-PAO [ECONOMIC REPORTER] in Chinese No 6, 15 Feb 82 pp 18-19

[Article: "Rural Enterprises Have Achievements to Their Credit--Interview With Deputy Minister of Agriculture Du Ziduan [2629 1311 4551]"]

> [Text] Editor's Note: China has 1.43 million commune and brigade enterprises producing more than 10,000 different products. Their estimated output value in 1981 was 68 billion yuan, and they played a major role in the national economy. Inasmuch as commune and brigade enterprises have numerous characteristics, they have vast prospects for future development.

During the past several years, commune and brigade enterprises in China's farflung villages have prospered to become a major force in China's national economy and a powerful support for consolidating development of the rural collective economy. By way of understanding the current situation in rural enterprises, the correspondent recently interviewed Du Zirui, deputy minister of agriculture and director of commune enterprises.

Remarkable Achievements From Readjustment of Rural Enterprises

Deputy Minister Du said that China's rural commune and brigade enterprises have developed on a foundation of the rural collective economy, and have been founded and developed little by little from disbursements of funds from commune member collective accumulations. Because they fit in with the orientation of overall rural economic development, development has been fairly rapid and now commune and brigade enterprises in the country number 1.43 million.

These enterprises produce a great variety of wares, principally small farm machines and tools, chemical fertilizer, pesticides, cement, coal, construction materials, foodstuffs, handicrafts, and processed goods from farming, forestry, animal husbandry, and fisheries; They also are concerned with fruit orchards, tea groves, the raising of livestock and poultry, hatching of aquatic products, construction, and transportation and communications. In 1980 commune and brigade enterprise products numbered more than 10,000 different kinds.

Dr Zirui said that along with the readjustment and restructuring of the national economy done during the past 2 years, commune and brigade enterprises have also carried out reorganization, their structure gradually becoming more rational. Those plants in competition with large industries for raw materials have turned to the production of other goods. Labor-intensive industries, particularly agricultural byproduct processing industries and service trades, have developed very rapidly, and production of consumer goods has increased strikingly while the ratio of other trades and industries has gradually declined. In 1980, commune and brigade enterprise total earnings grew by 42.8 percent as compared with 1978 earnings of 43 billion yuan. The ratio derived from processed industrial raw materials and fuels feel from 44 percent to 39.8 percent, and electro-mechanical products dropped from 25.3 percent to 22.6 percent. Earnings from construction and service trades rose from 18.6 percent to 21.1 percent, and agricultural products processing industry earnings went from 11.1 percent to 16.4 percent.

Remarkable advance was made in the restructuring of commune and brigade enterprise organization and the emergence of more than 20,000 jointly operated enterprises of various kinds. More than 2,000 commune and brigade enterprise supply and marketing companies have been established at all levels, and numerous communes have established supply and marketing administration units, warehouses, and retail outlets. Enterprise administration and management is in process of improvement, and the labor productivity rate has risen 30 percent since 1978.

Currently, commune and brigade enterprises' total output value, total earnings, and fixed assets each account for one-third in the rural collective economy. In 1980, total income for the year amounted to 61.4 billion yuan, a 22 percent increase over 1979. During the first half of 1981, it again increased by 10.4 percent over the same period during the pervious year.

Rural Enterprises Play Major Role in Collective Economy

Deputy Minister Du said that commune and brigade enterprises, no less than farming and livestock raising, are an important integral part of the rural economy. Development of rural enterprises plays a major role in the transformation of the backward state of rural villages and in the prospering of the national economy. China has a large rural population living on a relarively small amount of cultivated land. Its commodity economy is not well developed, and peasant earning levels are low. Experience has shown that development of rural enterprises holds clear advantages for solution to the following problems:

Accumulation of Funds for Development of Agriculture. Between 1978 and 1980, income from rural enterprises, in addition to being a source of 7.6 billion yuan in funds for the expansion of reproduction and support of agriculture (3.3 billion going for capital construction of farmlands, 3.2 billion being used to purchase farm machinery; and 1.1 billion being used to support poor brigades) was used to run collective welfare enterprises in rural villages for culture, education, and health.

A Money Tree For Peasants Increases in Income. A 1980 survey showed that in 90 percent of somewhat more than 5,500 of the most prosperous production brigades operated brigade enterprises. In some places, commune and brigade enterprises have become the principal source of peasant income. In 10 suburban Shanghai counties, half of peasant earnings derived from collective sources in 1980 was from commune and brigade enterprises. In 1980, 65 percent of the average per capita distribution of 182 yuan from the collective to peasants in suburban counties of Beijing derived from commune and brigade industries and sideline occupations.

Provided For Large Quantities of Labor Surplus to Agriculture. With the increase in the extent of agricultural mechanization and steady improvements in the system of responsibility for production, more and more surplus labor appeared in China's rural villages. Development of rural enterprises is a major road for providing jobs for this surplus labor. Today peasants employed throughout the country in commune and brigade enterprises number 30.5 million, or 10 percent of the total rural workforce. In places in which commune and brigade enterprises have developed rapidly, as for example in suburban Shanghai counties, the labor force engaged in industry rose from 15.7 percent in 1976 to the present 23.2 percent. Development toward division of labor and division of industries for the rural workforce and the economic structure is an inevitable trend in development of the modern agricultural economy.

Impetus to Building of Small Rural Cities and Towns. China's rural areas have more than 53,000 small market towns. Accompanying the commune and production brigade operation in small market towns of fabrication industries, agricultural products processing industries, businesses, food and beverage service industries, cultural and amusement activities, and such enterprises and public facilities, has been the preliminary formation in 20 percent of market towns of small new cities and towns combining the characteristics of city and country, industry and agriculture. Commune and brigade enterprises have a 3 million man construction corps that produces all manner of building materials that has created conditions for a transformation in the building of small cities and towns, and in rural dwellings.

Has Become a Major Integral Part of China's Industry. In 1980, output value of rural industries amounted to 10 percent of China's total industrial output value. Of the industrial products produced by rural enterprises, coal accounts for 17 percent of the nation's total output, phosphate fertilizer for 37 percent, chemical pesticides for seven percent, cement for eight percent, bricks and tile for 75 percent, silk knit goods for 14 percent, and about 80 percent of drawnwork, embroideries, bamboo, rattan, willow, and grass plaited articles, and small farm tools. Output value of commune and brigade food industries. Rural enterprises in the suburbs of large cities such as Beijing, Shanghai, and Tianjin also contract to provide spare parts or perform processing for a large number of large enterprises, becoming indispensable assistants to large industries. For example, 63 percent of Shanghai's production of clothing is processed by commune and brigade enterprises. Thirty percent of the parts used to make the famous Eternal and Phoenix brand bicycles are provided by commune and brigade enterprises and by plants jointly operated by industry and agriculture.

Has Increased the State's Fiscal Revenues. In 1980, commune and brigade enterprises paid 2.6 billion yuan in taxes to the state. Government revenues in 10 Shanghai suburban counties increased by 14 percent between 1979 and 1980, 61 percent of these revenues deriving from commune and brigade enterprises.

Vast Prospects for Development of Rural Enterprises

Deputy Minister Du Zirui said that for China to reach a "comfortable level" by the end of this century, it will be necessary to permit four-fifths of the country's peasant population to gradually become prosperous, which will require hastening the speed of development of rural enterprises. At the National Agricultural Work Conference convened by the Ministry of Agriculture not long ago, experts discussed the problem of hastening commune and brigade enterprise development, and formulated a development plan for the sixth 5 year plan. On the basis of a year by year increase in total earnings from commune and brigade enterprises calculated at 68 billion yuan in 1981, earnings of more than 100 billion were envisaged for 1985 for a 67 percent increase over 1980.

He said China has numerous advantageous conditions for the development of rural enterprises. About one-third the nation's surplus workforces are in rural villages. Resources that can be developed for use are abundant. The market is vast. Development of agricultural (including livestock) production, economic diversification, and family sideline occupations can provide large amounts of capital and raw materials. Some state own industries want to enter into joint operation with commune and brigade industries for mutual advantages.

Du Zirui noted that commune and brigade enterprises themselves possessed strengths. They are widely dispersed in rural villages where they can use resources that large industries cannot use. They are small in scale, the proportion of their hand operations being large, and they can adjust to changes in market demands and make timely readjustments in the orientation of their products. They require little investment of capital; results are fast; that they are strongly competitive. "These advantageous conditions and characteristics" demonstrate that commune and brigade enterprises have vast prospects for development in China.

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PROBLEMS IN ASPECTS OF LAND RELATIONSHIPS OUTLINED

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[Article by Yu Guangyuan [0060 0342 6678]: "Study of National Land Economics" (continuation)]

[Text] 3. The 24 Aspects of 12 Pairs of State Land Relationships

I intend to present here problems in 24 aspects of 12 pairs of national land relationships. 1. Plains and mountains. 2. Dryland and water surfaces. 3. Drylands and oceans. 4. Large plots and odd pieces. 5. Above ground and below ground. 6. Developed and undeveloped. 7. Readily used and hard to use. 8. Northern and southern. 9. East and west. 10. Rural villages and cities. 11. National land and public land. 12. Partial and total. A total of 24 aspects of 12 pairs. Two aspects of each pair require close attention, but I plan to lay comparative stress on the latter aspect. Of course, this is not to say that the former aspect need not be looked at carefully. Moreover, when there are several pairs, it is not possible to distinguish which deserves emphasis.

The first problem, plains and mountains.

Ours is a country with many mountains. The area of mountains, plains and hills, taken together, cover more than 6.3 million square kilometers, amounting to 66 percent of the national land area. More specifically, mountains account for 59 percent, plains for two percent, and hills for 12 percent. Among the large countries of the world, China has a large ratio of mountainous land. The mountainlands of the USSR occupy only 10 percent of its land area, and only about 15 percent of America's. China's mountainlands also have shortcomings. One is that they are high. Mountains more than 1,000 meters above sea level and high plains account for 57.9 percent of the national territory, those above 2,000 meters accounting for 32.9 percent of this. Differences in elevation are also great. At the same time, generally speaking, their soil layer is fairly poor, and the ecological system fairly brittle. But the total area is vast, and in a fairly large portion of mountain areas, conditions are very good. The semi-tropical and tropical mountain and hill regions south of the Chang Jiang, for example, have abundant water resources and biological resources. In northern mountainlands too, forestry and animal husbandry can be developed. For a long time China has attached more importance to flat land (and this is as it should be), but has attached less importance to mountainlands. As a result, the potential in China's mountainlands is very great. To take a case in point, I recently walked around for an entire day in the Mentougou area of Beijing. From east to west and from west to east, I traversed a region in which numerous mountain tops had no trees. It was not until I had gone the way into the western landscape that there were some changes. Beijing Municipality's statistics show that output value of Beijing forestry is only one percent of total output value of agriculture, and that total output value of Beijing's agriculture accounts for only five percent of total output value of Beijing's industry and agriculture. The result of the two multiplied together is that Beijing's forestry output value (including timber and dry tea), amounts to only .05 percent. Moreover, the mountain area of Beijing Municipality amounts to 62 percent of its more than 26,800 square kilometers. I feel these figures are able to demonstrate that the situation in development of mountainlands for use is very poor. A systematic study of mountainlands use should be initiated.

The second problem, dryland and water surfaces.

China had about 400 million mu of inland waterlands--180 million mu of rivers, 120 million mu of lakes, and 100 million mu of reservoirs and ponds. Use of the country's water surfaces is somewhat different than its use of mountain regions, and this is because 92 percent of the water surfaces are distributed southeast of a line running from Qionghun to Lanzhou to Tengchong. They are in regions of China that are fairly well developed economically and where population is fairly dense. However, the situation in use of China's fresh water surfaces is by no means good. Catches from freshwater have declined from 470,000 tons in 1959 to 300,000 tons in 1979. Though the reasons are diverse, failure to attach full importance to use of water surfaces is the main one. As a result of the emphasis on taking grain as the key link for a period of time to the neglect of economic diversification, water surfaces have shrunk by more than 20 million mu, and up until not long ago, two-thirds of fresh water surfaces where fish could be easily raised were not well used. Water surfaces not very well used include reservoirs. Since the founding of the People's Republic, more than 81,000 reservoirs, large and small, have been built, those providing water surfaces suitable for the raising of fish covering 30 million mu. Last year at the national technological and economic academic discussion conference on all around use of reservoirs, enthusiastic discussions took place among delegates on problems of raising fish in reservoirs. To get an idea of the potential of China's water surfaces, all that is necessary is a comparison of two different water surfaces whose natural states are very similar. Some lakes can produce more than 200 jin per mu while others produce only 1 or 2 jin per mu. In choice pools, yields reach more than 3,000 jin per mu. With good management, yields per mu from water surfaces need be no less than yields per mu of agricultural land.

The third problem, dryland and oceans.

China is not only a large continental country; it is also a large maritime country. In studying the economic of China's national territory, not only should serious attention be given development and use of national territory on land, but development and use of the oceans should also be studied. China faces the sea to the east and south, and has a continental coastline that is 18,405 kilometers long, not including the length of the coastline of offshore islands. China's seas (including Bohai, the Yellow Sea, The East China Sea, and the South China Sea) total 4.73 million square kilometers in area. People who study marine economics are rather fond of using the concept of a coastal belt. By this is meant an area extending landward for 10 kilometers from an average line along the shore touched by the waters of the sea, and extending seaward from the same line to a water depth of 20 meters. This area is called the coastal belt. Coastal belt and coastal waters are different concepts. The concept of a coastal belt is suited to economic study. The concept of an economic zone is applied internationally to an ocean area extending outward for 200 kilometers. China covers more than 40 degrees latitude from south to north and has very great differences in climatological, hydrological, and geological conditions. Its seas abound in biological resources, and they are also a huge storehouse of marine mineral resources. However, out development of the seas is backward as a result of historical reasons. Old China was basically unable to exercise its sovereignity over the seas. Though this has now changed, economic techniques are still backward, and ocean resources cannot be well developed or used. In studying China's territorial economy, the sea area, which is more than two-fifths the area of all its land, requires the attention of an extremely large force. The quantity of ocean catches should be greatly increased, and ocean hatching should be done. Production of ocean mineral resources should be developed, and possibilities for use of ocean energy resources should be studied. We have much to do in these regards.

The fourth problem, large plots and odd pieces.

I intend that odd bits of land not be looked down on. Beside fields, beside roads, beside homes, beside rivers, beside this, and beside that are odd bits and pieces of land. Each individual piece seems very small, but when all the bits and pieces in the country are put together, it amounts to a great amount. If well used, it can solve large problems. Most of these bits of land are in densely populated areas, which means places where land is very valuable, making its use very important. If, for example, the soil grew pasture grass rather than weeds, or were it planted to something like false indigo that could be used for many purposes, greater economic benefit would be gained from it. False indigo, for instance, has a fair amount of protein in it, and is good for preparing industrial animal fodder. Use of industrial methods to produce synthetic animal fodders can effect a saving in half of the amount of grain used, and poultry and livestock that are fed synthetic livestock fodder grow very well, the amount of lean meat in pork amounting to slightly more than otherwise. Even with weeds, if they are cut and fed to milk goats, that constitutes a good way of producing too. Goats milk is rich, and has more nutrients than cows milk. Odd bits of land may also be used to raise earthworms or ground beetles.

With regard to forestry, I have always advocated use of odd bits of land, including those in cities, for large scale planting of trees. In 1978, I envisaged planting trees in Beijing in every place where trees could be planted. I believe that substantial benefits would derive from so doing. The planting of trees where people live and in cities could both help solve the problem of residents' needs for lumber, and could reduce destruction of mountain forests. It is a way of killing two birds with one stone.

The fifth problem, above ground and below ground.

I intend to talk about the problem of mineral resources under this heading. These are of four major kinds. One is inorganic solid minerals; one is organic minerals metamorphosed from ancient organism; one is water; and one is geothermal energy and others. Some of these mineral resources are on the surface of the ground and some are underground; some are buried deep, and some are buried shallow. China's mineral resources are very abundant. This is because mineral production forms a direct ratio with land area. It is also because China's resources have not been well developed; numerous ores lie sleeping beneath the ground. This state of affairs differs greatly from the situation in developed countries. When talking about minerals, one particularly must talk about energy. Since China is a mountainous country, and the mountains are high, water energy resources are particularly abundant, but the utilization situation is particularly poor. Some countries have an 80 to 90 percent utilization rate of their water power resources, but in China the rate is a surprising less than three percent. Unless water energy resources are used, a large amount of energy annually will flow east and south into the oceans. Energy like this that is not used is lost forever, unlike the organic minerals that have been metamorphosed from ancient plants and animals. These resources are extremely limited and 1 ton used means 1 ton less. To regard petroleum and coal only as energy sources is also not to look at them in a comprehensive way. They are also raw materials for the chemical industry and should be more used as raw materials for the chemical industry. Thus, they should be particularly cherished. This is my point of view. As regards problems of the moment, in order to race against time and hurry up, and in consideration of capital and results, this view will require concrete verification. I feel with regard to China's mineral resources that to say only that the land is vast and minerals abundant, or to say only that resources cannot be considered abundant in terms of population is not to be complete. Both aspects must be talked about. On the one hand, one must realize that abundant resources are one of China's strengths; on the other hand one must realize that our resources cannot be considered great. We must particularly value our own resources.

The sixth and seventh problem, the developed and the undeveloped, and the readily used and hard to use.

I have economized here by not writing the words national territory. If there is any plot of land in the country that has not been developed, that is possibly because the soil is difficult to use; however, undeveloped land is not necessarily land that is hard to use. Historical conditions, economic conditions, and geographic location all play a role in development or lack of development. The undeveloped soil of China still amounts to quite a bit, and some of it is in places where natural conditions are extraordinarily good. I feel that the term "develop" has been used too little for a long time in the past. This term should be used henceforth in places where it should be used to strengthen our concept of development. Development of the land in an area is a major matter, and one that possitively cannot be undertaken helterskelter. Development work, must be done well from the very beginning. If it is not done well at the outset, a passive situation may ensue for a long time. Not long ago I paid a visit to Japan where I traveled in Hikkaido. I learned that 110 years ago Hokkaido was still a region of scant population inhabited by minority peoples. It was a place to which the government of Japan sent criminals. Only 110 years ago the decision was made to develop this region, and in the short space of time until today, it has been built up to what it now is. One must say that they were very successful in their work of developing Hokkaido. The Japanese government's experiences in developing Hokkaido merit our emulation. Once they decided to develop Hokkaido, they set up a government organization for the development of Hokkaido in February 1869. One of the major actions taken by this organization was to operate a school. Not long after deciding to develop Hokkaido, a school was opened in Tokyo in 1872 for the development of Hokkaido (Colonization Office Temporary School). Three years later, this school moved to Sapporo, Hokkaido where its name was changed to "Sapporo School of Agriculture." As I understand it, operation of this school was, in one sense, for study of technical measures for the development of Hokkaido, particularly agricultural measures. In another sense it was to train cadres for the development of Hokkaido. This school was operated entirely on public funds. Those who studied hard were also sent abroad for advanced work. But there was one condition, and that was that once their studies were over, they had to serve on Hokkaido for 5 years after which they could freely elect employment. These students studied what was necessary for Hokkaido, and an overwhelming majority of them settled down on Hokkaido to become mainstays in the development of Hokkaido. In 1907, this school's name was changed to "Agricultural College of Northeast Imperial University," and in 1917 it was again changed, this time to "Hokkaido Imperial University." In 1949, this was changed to "Hokkaido University," and it continues in operation until this day. I believe this use of science and education to blaze a trail is a good method. It is a method that encourages developers to forge ahead.

Inasmuch as we want to develop quite a few areas, it is extraordinarily necessary to seriously study development plans. While summarizing China's experiences and lessons of other countries.

Lands that can be readily used should be used to the full. National territory that is hard to use will require study of methods and steps to be taken on the basis of conditions in order to use it. Strictly speaking there is no land that cannot be used. Barren land and places with no trace of human beings can be used for purposes requiring barren land and places with no trace of human beings. Atomic bomb experiments cannot be carried out in places teeming with people. In all the world there is no such thing as land that cannot be used, but only land that is difficult to use. Discovering uses for land that is difficult to use, and finding ways and means of using national territory that is difficult to use is a major task of the study of national land economics.

The eight and ninth problems, south and north, east and west.

The north and south, east and west problems here means China's internal problems as distinct from north and south, east and west international relations.

China's internal problems of relationships between eastern regions and western regions are problems in relationships between fairly well developed regions and fairly undeveloped regions. Population is dense in the eastern part of the country; transportation is convenient; and the terrain is relatively low. In the western part of the country, population is sparse; transportation is inconvenient; and terrain is very high. The entire Tibetan high plateau averages more than 4,000 meters above sea level. For historical reasons, customs and habits, and degree of culture also shows extensive differences. There are two different regions for which there should be two different national land programs for development and use, preservation and administration. Our study of the western regions is currently comparatively weak, yet it is precisely this region that can take large numbers of China's population. In terms of nationality relationships, the east is inhabited largely by the Han nationality, while the west is where national minorities live.

Unlike international north-south problems, though China's south and north have some differences in the extent of their development, this is not their major distinguishing characteristic. In the north and northeastern regions, heavy industry is very developed. The coastal region of the north is also a developed region. In China, climatic conditions are a major point of difference between south and north. The north is dry while the south get copious rainfall. Great differences also exist in minerals. The region with the most abundant coal resources, for example, is the north, in Shanxi, Nei Monggol, and the Northeast. In the southeastern and south central region, coal is lacking. Efforts to divert northern coal to the south have not met with success. Problems between south and north include problems in distribution of labor between south and north, and problems in cooperation between south and north.

The tenth problem, cities and rural villages.

Inasmuch as the national land of which we are talking includes national land that has already been transformed by human activities, the land of rural villages and cities constitutes not only a foundation, but when taken together with structures on the land, also belongs to the concept of national land. In the study of national land economics, we must attach importance both to rural villages and to cities. In rural villages where people are engaged in agriculture, forestry, and animal husbandry etc, national land economic problems exist. The urban economy also takes land. It has a geographical position on national land problems of rural villages, in addition to land required for production is land required for construction of dwelling sites, rural road construction, and such problems. Rural construction requires clear guiding ideas and must be planned. China's rural construction is very important. The current situation in which rural villages take up good farmland merits very much attention, one of the reasons being a blindness in use of land. Prior to the war against Japan, some bourgeois scholars formed a "rural construction faction," which in terms of its ideological bent and political bent was antithetical to the anti-imperialist, anti-feudal revolutionary movement led by our Communist Party. Where we called for revolution, they advocated reform. Now that we are carrying our socialist construction, we need numerous people who are enthusiastic for rural construction, both old people and young people. Now we ought to have a rural construction faction with a lot of people in it—a socialist new village construction faction. We need people enthusiastic about the study of rural villages, about how to make production develop, about how to improve living standards, about what is the most suitable way for people in different regions to build houses, about what kinds of construction materials to use, about what the design of dwellings should be, about what fuels are most suitable, about how general use of methane can become a reality; about the degree to which electrification should be achieved in a given period of time, about how to solve problems in rural roads and rural transportation, about requirements for rural culture, education, and sanitation, about how rural services should be developed...all these things require concern. In China today, 80 percent of the population lives in rural villages and the problem of rural villages construction is an extremely important one. In order to do this job well, fairly great improvements will have to be made in rural village construction, so that people will be at ease about rural village conditions. Life in a rural village has inconveniences of many kinds, and no particular attention is given politics or work. That young people are not content in rural villages is a very big problem. Means must be found to solve it. Right now, one not very good situation is that all eyes look toward the cities. People in society cannot be entirely blamed for this. This has to do with our situation in many of its aspects and with our work. Were life in rural villages not so much inferior to life in cities, people would not look toward the cities. This also has something to do with some of our prevailing systems and policies. For example, regional wage scales were set on the basis of price differences in various places in the period immediately following Liberation. Subsequently prices became the same in all areas, but very great differences in wages continued. As a result, the more poverty stricken a place, the less concern for standards of living. Some comrades have told me that living subsidies in the Xining region of Qinghai Province are higher than in the much more poverty stricken Muangzhong region. This is a policy question. When policies are not set properly, people do not want to go to rural villages, and this is extraordinarily bad for our construction of rural villages. We should make our policies encourage youth to find contentment in rural villages or find contentment in border regions.

The foregoing has talked about rural villages, but problems in urban construction also require a loud cry of warning. The formation and development of cities is an inevitable tendency in economic development. In the building of socialism, all around consideration must be given to what kind of cities are to be built on our national land, their location, their size, their characteristics, and the orientation of their development. We have to do a good job of population spread and, most important in this regard, is planned facilities in cities. Right now we do not have such plans, and no one is responsible for conducting studies of this kind. We do not advocate blind development of large cities, but without relevant planning, this problem cannot be fundamentally solved. Strict control over the flow of population into large cities cannot, by itself, solve the problem any more than it has in the past. Going from rural residential areas to small towns, to county seats or to small cities that are the equivalent of county seats, going to medium size cities, to large cities, or to exceptionally large cities such as Shanghai and Beijing requires a total conception. This is also one of the most important tasks in national land economics.

In addition is urban construction itself. For planning work in this regard, there are indeed people and organizations responsible. However, in a period of more than 30 years, not even in the capital city has a plan been presented to the inhabitants. In this regard, work is China also lags behind that of numerous countries in the world. In urban construction per se lie problems in equitable use of national land. For example, how should homes of residents be designed so as to make most equitable use of land; how should the problem of land to supply vegetables to urban areas be solved; and what liaison should be established between large cities and rural villages are all problems to be considered.

The eleventh question is national land and public land.

Public land is a term I made up. I use this term to mean land that does not belong to any country, or land that is the public property of all the countries of the world. High seas is a term that everyone is in the habit of using; however, the world's public lands consist of more than just the high seas. Antarctica is also publicly owned. Space beyond a certain number of kilometers, I fear, has not been, as yet, designated as belonging to the country directly beneath it. Therefore, it is best to use the term public land to mean that empty land on the globe that does not belong to any country. Since it is public land, all that is needed is the strength for us, like other countries, to make use of it. This is our right, and one that we should be concerned about. For example, the tracks followed in space by synchronous communications satellites are limited. Unless we take possession of a certain position, somebody else will occupy it.

The twelfth question, partial and total.

In the foregoing we talked of the problem of this portion of national land and that portion of national land. In modern society, close intercourse exists between people living in this portion of the national land and that portion of it. A lot of transportation of goods takes place, and there is also a rapid exchange of information so that all of society has become a totality. Numerous problems about national land economics will be solved in the realm of the country as a whole. So national land problems are closely related to communications problems (including electrical communications). Development plans for part of national land are also closely related to development of the land of the entire country.

It has been national land itself that has been discussed in these 12 problems. The second part discussed problems of national land classification, national land and the ecology, national land and population, and national land and communications. In this way I have covered most of the topics that have occurred to me. Our task is to carefully investigate these problems and to get a large amount of material about them, as well as to carry out a penetrating study to arrive at scientific conclusions. Our task is a large one requiring good organization of existing forces. In addition, it is necessary to plan large scale training of people for this purpose. Today, though the organs of state power in China are huge, those we need are still lacking. One example is a national land renovation management organization, which is still in process of formation. China's various intellectual organizations are not complete and are relatively weak. In handling the issue of intellectual organizations, we should not use the same methods used to handle organs of national power. The former should be streamlined, while the latter also has to oppose a situation of an inordinate number of incompetent people. However, specialized talent with genuine knowledge should be given opportunity to make full use of their skills and change the present situation that can be generally termed weak.

There is nothing mysterious about building a new field of knowledge. Looked at in terms of numerous fields of knowledge, there is a fundamental guiding idea. In the building of a field of knowledge, methodology is a consideration after which comes steady work, steady accumulation, the writing of books and reports to establish a body of knowledge. Many have been established whose importance and whose foundation are far less than that of the field of national land economics. Much less do they have the large quantity of survey materials for a foundation that this branch of learning has, or the assistance of numerous neighboring fields of learning. All of us are very enthusiastic, and the Chinese National Land Economics Research Society has been established. In addition, socialist construction has urgent need of this field of learning, and the work of managing national land and renovating national land has been placed on the agenda of the party and the state. The branch of learning of national land economics, I believe, can be smoothly established.

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NEW EMPHASIS GIVEN YIELDS PER UNIT OF AREA IN RESTRUCTURING OF AGRICULTURE

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[Article: "Total Output Value of China's Agriculture Increases More Than 15 Percent in Three Years. Readjustment of Internal Structure of Agriculture and of Crop Patterns Wins Fine Achievements"]

[Text] China's readjustment of the internal structure of agriculture and of crop patterns has won fine achievements. Despite frequent national diasters during the past 3 years in which grain output has risen rather than fallen, the total output value of agriculture has increased at a five percent rate annually. Comparison of 1981 with 1978 shows an increase of about 15 percent.

According to data from each province submitted to higher authority, a comparison of 1981 with 1978 shows a reduction by more than 100 million mu in the national area sown to grain, but an increase by more than 30 billion in grain output nevertheless, making it the second highest year for grain output since the founding of the People's Republic. In 1981, outputs of cotton, oil-bearing crops, and sugar crops increased by 31, 80, and 32 percent respectively over 1978. Outputs of mulberry cocoons, tea, and flue-cured tobacco increased by 44, 21, and 12 percent respectively. Such tremendous increases in output of these economic crops has been rarely seen since founding of the People's Republic. Only jute and amberi hemp among the economic crops have declined in area sown, their outputs falling, this the result of development of artificial fiber production. The livestock industry, forestry, and aquatic products have also steadily increased in output or output value. In 1981, hog, cattle, sheep and goat total outputs increased more than 38 percent over 1978. Commune and brigade enterprises showed healthy development. Commune household sideline occupations were filled with vitality, and home poultry raising reached all-time highs.

With the equitable readjustment of the internal structure of agriculture and of crop patterns, agriculture not only provided the state greater amounts of processed raw materials, enlivened city and country markets, and strengthened the collective economy, but also improved the lives of the peasants. In poverty stricken regions with a population totaling 150 million, in particular, improvements in the lives of the masses was even more spectacular. Today, a new situation of political stability, economic prosperity, and peace of mind pervades the rural villages of the country. Commune members say that now policies are good; there is enough to eat; people are content; and zeal is high.

Readjustment of the structure of agriculture began in the wake of the Third Plenary Session of the 11th Party Central Committee.

Today all jurisdictions are acting in accordance with the program put forward by the CCP Central Committee and the State Council for "active development of economic diversification with positively no relaxation in grain production" to formulate plans for readjustment of the structure of agricultural production, which are characterized by the following: Maintaining generally stable the present ratio of grain and economic groups grown, but giving greater attention to increased yields per unit of area to increase total output. The future focus of readjustment will be on development of mountain regions, water surfaces, and grasslands, as well as on improvements in the ecological environment, on equitable use of all the land of the country, and further implementation of the party's policies in development of economic diversification for the good of both the collective and individuals. In short, it is intended that efforts over a not very long period of time will gradually build an economically diversified and comprehensively developed equitable production structure in China's agriculture. In this way our avenues will become ever broader, and the agricultural situation will become increasingly better.

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CSO: 4007/173

AFFORESTATION DRIVE GATHERS MOMENTUM

OW141145 Beijing XINHUA in English 1223 GMT 12 Mar 82

[Text] Beijing, 12 Mar (XINHUA)--Workers and cadres across China, including Beijing's first Communist Party Secretary Duan Junyi and Mayor Jiao Ruoyu today involved themselves in a national tree-planting drive in response to a government greening campaign. The first secretary and the mayor planted trees in Lianhuachi, a Southwest Beijing park.

In the past few days, Shanghai government, party and army leaders each planted three trees while forestry specialists in the capital campaigned in the streets to promote the drive. Fifty of them set up a booth in Beisd's downtown area selling popular science books, pictorials and journals on afforestation and prevention of tree pests and answering all kinds of questions concerning the subject.

Trees are being planted on the dykes of the Yellow River in Henan and Shandong provinces while in Inner Mongolia, 26 counties have agreed on forestry quotas. Northern Jiangsu Province's Xuzhou Prefecture, often victimized by floods, drought and sandstorms, has incorporated its tree-planting plan into its overall farmland improvement program.

Provincial leaders in Jiangsu, Hunan, Fujian and other provinces, have taken the lead in this drive. Since late January's spring festival holiday, Xu Jiatun and other officials in Jiangsu have planted 1,200 pines, metasequoia, sweet-scented osmanthus trees and 20,000 box trees.

Together with other government functionaries and 500 gardeners, Hunan officials have planted 2,000 camphor, sassafras and other trees on the scenic Yuelu hills near Changsha. Fujian officials have afforested a Fuzhou park. Anhui Province's Hefei city government has set afforestation quotas and targeted sections of land to be planted by its subordinate offices. Factories, offices, schools and army units in Jinan, Shandong Province, have also been asked to participate.

In cities with insufficient tree saplings, manpower, materials and funds have been channeled into improvement of tree and grass nurseries and flower gardens.

Officers and soldiers of the People's Liberation Army will plant trees within 10 kilometers of their barracks. Soldiers in Wuhan helped plant trees along streets and scenic areas in the past 2 months while frontier guards in Guangxi joined border residents in afforesting barren mountains.

The P.L.A. Beijing units will contribute 130,000 workdays to the afforestation effort.

CSO: 4020/104

TREND OF LIVESTOCK INDUSTRY DEVELOPMENT DISCUSSED

Hong Kong CHING-CHI TAO-PAO [ECONOMIC REPORTER] in Chinese No 6, 15 Feb 82 pp 20, 25

[Article: "Development of China's Livestock Industry and International Cooperation--Interview With Deputy Minister of Agriculture Cai Ziwei [5591 1311 0251]

> [Text] Editor's Note: China and Australia have cooperated in setting up at Nanshan in Hunan Province the Nanshan demonstration pastureland on an area of 420 hectares. China has cooperated with New Zealand to establish at Liabin County in the Guangxi Autonomous Region the 1,200 hectare Qianjiang demonstration pastureland. Using free assistance given by the United Nations Development and Plans Office, the Food and Agriculture Organization invited experts to guide the building of a demonstration pastureland in Wengniute Banner, Nei Mongol on which construction has already begun. In June last year, the International Agricultural Development Fund signed a long term low interest loan agreement for 35 million yuan with China.

Last October, the Ministry of Agriculture convened the National Agricultural Work Conference in Beijing. One of the main topics of the conference was the summarization and exchange of experiences during the past several years in the rapid development of China's livestock industry, with discussion as to how to further hasten the speed of development of the livestock industry today and during the period of the sixth 5 Year Plan. After the conference, the correspondent interviewed the deputy minister of agriculture responsible for the livestock industry, Cai Ziwei, asking him to give a briefing on the development of the livestock industry.

Recent State of the Livestock Industry and External Cooperation

Cai Ziwei said that the present development of China's livestock industry is such as has been rarely seen in the more than 30 years since the founding of the People's Republic. This is manifested principally in the following: An increase in the quality of various kinds of livestock and poultry, and a gradual increase in various kinds of livestock products; achievements in the improvement of livestock and poultry, some superior varieties having been successfully bred; increase in international exchange and cooperation in the livestock industry.

Following 2 years of all around development of China's livestock industry, the growth trend continued to be maintained last year. In 1980, total output of beef, pork, and lamb [or goat] for the country was 24.1 billion jin, a 7 billion jin increase over 1978, the all time high in China's history. During the first half of last year, 92 million head of live hogs were removed from the country's inventory, an increase of 850,000 head over the same period during the previous year.

At the end of 1980, the number of large herbivorous animals in inventory including cattle, horses, donkeys, and mules numbered 95.25 million head, a 660,000 head increase over the previous year. As of the end of last June, the number showed a 1.02 million head increase over the same period two years ago. In 1980 there were more than 17.4 million more sheep and goats than in 1978, and at the end of last year, 187.31 million of them were in inventory. The raising of rabbits, particularly long haired rabbits, developed very quickly in many places. An estimated more than 200 million rabbits are being raised throughout the country.

In 1980, China's sheep wool output was 351.46 million jin, a 45.12 million jin increase over 1979. Goat hair output stood at 8.01 million jin, a 9.5 percent increase over the previous year. During the first half of last year, the state purchased 193.73 million jin of wool, 5.16 million jin of goat hair, and 6.61 million jin of rabbit fur, a 16, 8, and 54 percent increase respectively over the same period two years previously.

During the past 3 years, extent of increase in output of poultry eggs nationally has been greater.

Improvement in livestock and poultry varieties in China is going along smoothly. Success has been achieved in the breeding of superior varieties of beef cattle. During the 1970's, China introduced nearly 20 different breeds of cattle from abroad. Following breeding to improve varieties, the number of fine breed beef cattle and combination milk and beef cattle now being raised in the country now stands at more than 2 million head. The flesh of fine breed beef cattle is tender in quality and delicious in taste. During the past 3 years, almost 200,000 tons of it has been exported to Hong Kong and Macao where it has been enthusiastically received by consumers. Striking increase in exports again took place last year. In recent years China has established beef production bases in 140 counties where fine breed beef cattle will continue to be grown in future.

China has also had new achievements in the breeding of fine breed fine wool sheep. An average of between 6 and 7 kilograms of fine wool is sheared annually from each mature ewe of this fine sheep breed, the fineness of wool being mostly 64 count, and the rate of clean wool being 50 percent. Within 12 months, the wool reaches a length of from 9 to 10 centimeters. Wool quality is good; it contains lanolin, and is characterized by great curliness. The Ministry of Agriculture is presently vigorously promoting the growing of this fine breed of fine wool sheep in Xinjiang, Nei Monggol, and Jilin.

Deputy Minister Cai said that the increase in livestock and poultry and the increase in livestock products had increasingly enlivened city and country markets in the country, and the supply situation was gradually improving. Great increase has also taken place in foreign exchange earnings resulting from the export of livestock products. In 1980 foreign exchange earnings from the export of livestock products amounted to $1.85 billion, a $320 million increase over 1979. China remained world champion in quantities exported of hog bristles, hog intestines, sheep skin, honey, rabbit fur, and rabbit meat.

The scale of China's technical exchange with foreign countries and international cooperation in the livestock industry has expanded year by year. In cooperation with Australia, China established a 420 hectare Nanshan demonstration pastureland at Nanxhan in Hunan Province. In cooperation with New Zealand, Zealand, the 1,200 hectare Qianjiang demonstration pastureland was established in Laibin County in the Guangxi Autonomous Region. Gratis support given by the United Nations Development Plans Office enabled the Food and Agriculture Organization to invite experts to give guidance in the establishment of a demonstration pastureland in Wengniute Banner in Nei Monggol. Work on these projects began in December 1979, January 1980, and in March.

In June last year, the International Agricultural Development Fund signed a longterm low interest loan agreement for 35 million yuan with China, and the "China's Northern Grassland and Livestock Industry Development Project" formally became effective. China is now designing and planning the use of these preferential loan funds to try to establish a prototype of Chinese style modernization of the livestock industry.

New Changes in the Livestock Industry During the Period of Readjustment

After providing a briefing on China's accomplishments in the livestock industry during the past 3 years, Deputy Minister Cai Ziwei pointed to new changes during the past several years in the field of China's livestock industry as demonstrated in the following four ways:

One is the liberalization of policies, the emancipation of productivity, the elimination of restrictions on peasant raising of livestock and regulations of various kinds prohibiting the raising of livestock and poultry, revival of market trade and livestock trading markets, and the appearance in many places of the country of an upsurge in the peasant raising of hogs, cattle, sheep and goats, rabbits, and chickens. Formerly few peasants privately raised cattle, but in 1980 the number reached 8.66 million head, or 12.2 percent the total number of cattle in the country. In places with facilities for the processing of milk products, commune member raising of milk cows has developed especially rapidly.

The appearance of a group of key households, and specialized households engaged in the raising of livestock and poultry, is a new phenomenon in China's development of the livestock industry.

Second is the gradual implementation of systems of responsibility, which has brought about the consolidation and developmnnt of state livestock breeding farms and livestock pastures giving a new lease on life to the collective livestock industry economy. The systems of responsibility for production practiced in pastoral regions today are not the same in name, in substance, or in character; yet they do have common characteristics, The means of production (meaning mostly livestock and the grasslands) substantially adhere to a system of public ownership; egalitarianism has been surmounted in distribution, which embodies, in varying degrees, the principle of distribution in accordance with work. Specialized contracting, the linking of remuneration to output, and practice of such various forms of a system of responsibility for production has meant that numerous hog, cattle, sheep and goat raising farms have been able to convert losses into gains, individuals getting more, the collective earning more, and the exchequeur deriving more revenues. In 1980, total national output value of livestock breeding farms was 278.46 million yuan, a 103 percent increase over 1979.

Third is readjustment of the structure of farming and livestock industry structure and of the internal structure of the livestock industry, which has won results. In many places during the past several years, the livestock industry has developed rapidly, the livestock industry increasing its proportion of the local economy. Output value of the livestock industry in the country as a proportion of total agricultural output value climbed from 13.1 percent in 1978 to 14.2 percent in 1980. Increase in herbivorous animals such as cattle, sheep, goats, and rabbits, was fairly rapid. The proportion of cows and ewes in herds increased, and the survival rate from breeding increased.

Fourth, more and more farmers and herdsmen give attention to selection of breeds, the formulation of feeds, and prevention and control of epidemic diseases. They conscientiously study and burrow into science and technology and the practice of scientific animal husbandry. The former situation in which number of head of cattle in inventory was the sole pursuit in livestock breeding and production with no emphasis on increase in the final product has been reversed. Today there are 55,800 veterinary medicine stations at all levels in the country, and breeding farms, livestock improvement stations, breeding stations, and frozen semen stations total 2,600. Including grassland work stations and such livestock veterinary medicine enterprises and unit units, the country has 580,000 veterinary medicine personnel.

Prospects for Development of the Livestock Industry

Deputy Minister Cai continued talking to the correspondent about the questions of the need for continued development of China's livestock industry and how it would develop.

He said. He said that even though very good accomplishments had been made in development of the livestock industry during the past 3 years; nevertheless, it was still a very far way from being able to satisfy the daily increasing needs of the material lives of the people. At the present time, the standard of living of China's people rests mostly on grain and vegetables supplemented by meat and eggs. In 1980, national average per capita consumption of meat was only 24.5 jin, and of eggs between 5 and 6 jin. This standard is still very low. If the people of the country are to live a "comfortable life" by the end of this century, continued vigorous development of the livestock industry will be necessary.

Today the gradual improvement in the livelihood of urban people has steadily placed new demands on livestock products. On the one hand there is increased demand for lean pork and for beef, and lamb as well as for fresh milk and poultry eggs. On the other hand, the need for industrial goods used in daily life made from hides and hair also has become increasingly great. In addition, the number of draft animals used in agriculture and female livestock animals of proper age also require further development.

Cai Ziwei said that the livestock, industry in China requires great development, and conditions exist for great development as well. In China there is 3.3 billion mu of grasslands that can be used, 1 billion mu of grassy mountains and grassy slopes, several hundred million mu of grasslands in forests, and 200 million mu of ocean beaches, which are precious resources for development of the livestock industry. Most of the large quantities of stalks and stems, husks, and cake residues from farm crops, and more than 100 million mu of green manure crops make good fodder for livestock. Formerly use of these resources was sometimes inequitable, sometimes insufficient, and sometimes not at all.

About 30 percent of the workforce in the farflung rural villages of China is surplus. Following institution of various economic policies in rural villages and the implementation of systems of responsibility for production, a large amount of the workforce is being converted to economic diversification. The adaptation of general methods to local situations for the development of hog raising, cattle raising, sheep and goat raising, poultry raising, rabbit raising, and beekeeping can soak up a large amount of the workforce. Once these raising industries have developed, local processing can also soak up large quantities of the workforce. Abundant workforce resources is yet another advantage in China's development of a livestock industry.

Deputy Minister Cai said that the program set for development of the livestock industry at this national agricultural work conference was as follows: Guided by the principle of comprehensive development of farming, forestry, and livestock, pastoral areas are to be used chiefly for livestock, emphasis going to development of economic diversification in livestock industry production. Farming areas should combine farming, forestry, and livestock, with all around development of a livestock industry and the adaptation of general methods to local situations to make the most of advantages, and lay stress on key points. Suburbs of large and medium size cities should mostly produce milk, poultry, eggs, and meat. The conference adopted some concrete policies and actions to be taken for development of the livestock industry including the following:

Active development of household livestock raising industries, support being given for capital, fodder, and superior breeds.

Further implementation of systems of responsibility for production, with proper handling of production and marketing relationships, and continued operation of pilot projects for integrated livestock, industrial, and commercial enterprises.

Continued restructuring of livestock industration administration systems.

Increased production of fodder grass and feeds

Vigorous advocacy of scientific livestock raising. Training of more livestock, veterinary medicine, and grasslands scientists and technicians.

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CSO: 4007/259

WELL BEING OF RURAL VILLAGES PORTRAYED

Hong Kong CHING-CHI TAO-PAO [ECONOMIC REPORTER] in Chinese No 6, 15 Feb 82 p 19

[Article by Yang Qingwen [2799 1987 2429]: "Brief Summary of Agricultural Production and Peasants' Livelihood"]

[Text] Despite the continuous occurrence of severe floods and droughts in some provinces and autonomous areas of China in 1981, the estimated total output value of agriculture for the country as a whole still showed an increase of about four percent over the previous year. Total output of grain is estimated to have increased by about 30 billion jin over the previous year, close to that of the bumper harvest year of 1979. On the heels of an all-time high record in 1980, a new breakthrough in cotton was made in 1981. After 3 consecutive years of increases in output of oil-bearing crops, continued increase occurred again in 1981. It may be said that all around increase in output of 12 different crops including grain, cotton, edible oil, hemp, silk, tea, sugar, vegetables, tobacco, fruit, medicinal materials, and miscellaneous crops occurred. Meat, eggs and fruit also registered varying degrees of increase. This was a change from the past when increases in output of grain meant reductions in economic crops and contraction of economic diversification.

Accompanying all around increases in output from agriculture and a raise in purchase prices paid for farm products has been another obvious increase in peasant income in 1981 on top of fairly great increases during the 2 previous years. As of the end of November, rural savings deposits this year were up 29 percent over the same period last year. Rural savings per capita nationwide amounted to somewhat more than 23 yuan, somewhat more than five yuan more than at the end of the previous year. In Guangdong Province peasant savings have steadily increased year by year. In 1978 commune members' saving amounted to almost 670 billion yuan, and in 1981 this leaped to almost 2.2 billion yuan, a more than threefold increase in a three year period. In the relatively poverty stricken rural villages of Guizhou Province, in 1981 peasant average per capita income for the province increased somewhat more than eight yuan over the previous year.

In the course of the last 4 years, rural villages in China have built 1.5 billion square meters of houses, meaning an average increase of almost 2 square meters per capita for the 800 million peasants in the country. In rural Jiangsu, almost one-half the peasant households built new houses. In Yanan Prefecture in northern Shaanxi, in the course of 1980 45,800 cave dwellings were built, more than the number built during the past 10 years. Last year another group of new houses was built. Statistics show that 150 million rural households in the country would like to build new houses.

Very great increases has taken place in rural needs for the means of production and the means of livelihood. When the peasants have money, they first develop production, then build new houses, and then marry a wife,and buy a trousseau. Rural requirements for consumer goods have also risen. In addition to the "three great items" (bicycles, sewing machines and wristwatches), they want high and medium quality clothes, television sets, large clocks, and fine furniture.

In rural villages today, discussion groups on scientific farming have exerted considerable attraction on the peasants, particularly on rural youth. Some communes are operating classes in crop cultivation, scientific fertilization, and bredding of varieties which young peasants from all over come forward to participate in. The masses say, "Now that responsibility for fields has been set, everyone is trying to become a technician." Wherever a cadre walks, a large group of people follows." Fuyang Prefecture in Anhui set up 53 technical information sites which received more than 20,000 inquires between March and September last year.

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CSO: 4007/259

BRIEFS

FRESHWATER FISH BREEDING INCREASES--Beijing, 10 Mar (XINHUA)--China's 1981 fresh-water fish catch was 1.37 million tons, 29.8 percent more than 1978, according to a national fresh-water fishing conference that opened here today. Pond, lake reservoir and river surface area used for fish breeding is three million hectares, 10 percent more than 1978, said Xiao Peng, director of the State Administration of Aquatic Products. [Beijing XINHUA in English 1224 GMT 10 Mar 82]

PRAWN CATCH EXCEEDS QUOTA--Beijing, 5 Mar (XINHUA)--China's prawn catch in 1981 exceeded the state quota by 11.5 percent, even though some breeding centers were hit by typhoons. Prawns now are bred in 90 coastal counties and cities, compared with only a dozen in 1978. China's prawn industry has expanded with the adoption of artificial breeding methods for prawn larvae. In recent years, a series of measures have been taken to expand prawn breeding. A National Prawn Breeding Company, established in 1979, manages prawn breeding, processing, sales and import and export business. China now has 300 technicians and 500 skilled workers involved in the breeding of prawns. Training courses for the workers also have been conducted in recent years. [Text] [Beijing XINHUA in English 0812 GMT 5 Mar 82]

VEGETABLE COOPERATION GROUPS ESTABLISHED--Xian, 9 Mar (XINHUA)--Three high-yield vegetable cooperation groups have been set up here by agricultural departments and scientific research institutes in 17 cities. The groups exchange production and technical information in an effort to boost vegetable production in big and medium-sized cities. The cities include Beijing, Tianjin, Shanghai, Shenyang, Harbin, Nanjing, Wuhan, Chengdu, Xian, and Lanzhou. Cooperation started in Beijing in 1980 when agricultural departments and scientific research institutes in the capital city organized a group. Using modern vegetable production techniques under the group's guidance, the city's 1,300 hectares of tomatoes averaged 43.5 tons per hectare in 1980, 13.5 tons more than in the previous year, the Ministry of Agriculture said. Per hectare yield reached 45 tons in 1981. An inter-city cooperation group, involving Beijing, Tianjin, Shenyang, Xian, Taiyuan and Jinan, was formed in early 1981 on the advice of the ministry. Experiments on high-yield tomatoes and cabbages were made in the suburbs of these cities. [Text] [Beijing XINHUA in English 1219 GMT 9 Mar 82]

CSO: 4020/104

SUXIAN PREFECTURE REAPS OVERALL BUMPER HARVEST IN 1981

Beining GUANGMING RIBAO in Chinese 11 Jan 82 p 1

[Article by Dong Buxiang [5516 2975 3276] and Shao Changfu [6730 7022 1381]: "Managing the Popularization and Application of Agricultural Science and Technology Like Managing the Production Responsibilitiy System, Anhui's Suxian Prefecture Realizes Overall Bumper Harvests in Agriculture Last Year"]

[Text] Anhui province's Suxian Prefecture is located in the plain north of the Huai River and has suffered from many disasters for a long period. Its agricultural yields are low. But comparison of 1981 and the previous year showed the yield of food grains increased 24.2 percent. The yield of oil bearing crops increased 24.5 percent, and the total agricultural income increased 34.13 percent. Per capita income of farmers was 260 yuan, an increase of 69 yuan from the previous year. Recently, the prefecture committee summarized the situation in agricultural production and believed that implementation of the production responsibility system has stimulated the farmers of the whole prefecture to actively learn science and use science, and it has improved the standard of scientific planting. This is an important reason for the realization of bumper harvests in agriculture.

In recent years, the Suxian prefecture committee strengthened leadership in scientific planting. A deputy secretary took charge of this work, and he frequently conducted studies, planned, inspected, summarized, helped the agricultural department solve some of the practical problems in the popularization of agricultural techniques. The prefecture committee and the administrative office relied on agriculture technicians and cadres and drew up the "plan for the popularization of agricultural techniques in 1981-1985 for the whole prefecture". At the same time, agricultural specialists and technical personnel were organized as the prefecture's agricultural techniques advisory group to serve as a scientific and technical counseling agency to lead production, to participate in decision making, and to solve major technical problems in agricultural production. The main leading members of the prefecture committee and the administrative office led in learning science and using science, frequently listened to agricultural techniques classes, and joined technicians on trips to villages to investigate, study and solve problems.

The Suxian prefecture committee has exerted much effort in popularizing agricultural production techniques that require less invettment, that produce many benefits, that produce quick results, and that are easy to implement.

It has popularized in a key way the application of such techniques as the cultivation of superior varieties of agricultural crops, improvement of low yielding soils, comprehensive prevention and control of harmful cotton insects, machine sowing of wheat, sidedressing for the roots, deep application of chemical fertilizers, and plowing green manure under, dense planting of peanuts and irrigation of farmland by spraying and artificial insemination of large domesticated livestock. Attention was also paid to popularizing new techniques in diversification such as cultivation of pearls in river clams, raising martens, and raising silkworms.

Suxian Prefecture also used training classes, field meetings, night schools, broadcasts of lectures, technical counseling, signing technical contracts and many such forms to popularize agricultural science and techniques. According to statistics, the whole prefecture has held over 2,000 technical training classes. It has held training over 50,000 times for technical backbone members. It has held over 2,000 scientific and technical seminars with an audience of over 250,000 and it has printed over 1 million copies of scientific and technical data.

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CSO: 4007/187

'BAN YUE TAN' DISCUSSES ECONOMIC CONTRACTS

HK101230 Beijing BAN YUE TAN in Chinese No 4, 25 Feb 82 pp 21-22

[Article by Gong Xianggeng [7895 7449 1649] and Wu Zheng [2976 2398]: "Production Teams Should Pay Close Attention to the Signing of Economic Contracts"]

[Text] At present, of the production teams that have introduced various versions of the contract responsibility system in our Fuzhou area, some have followed the pattern of concluding economic contracts, setting out the economic relationship between the production team and the peasant household, or between the operation group and trained personnel and their respective rights and obligations. This has played a very helpful role in developing production and arousing mass enthusiasm. But due to a heavy workload and the pressure of production tasks, many production teams have still not had time to conclude formal economic contracts with commune members who have actually committed themselves. Even where a contract has been signed, unstable factors still exist. This has, to different degrees, affected the morale of the masses and interfered with the development of production. Therefore, we should act without delay in upholding the spirit of the No 75 document of the CCP Central Committee and the Central Rural Work Conference and handle well the business of concluding contracts in a realistic manner.

On the basis of the production responsibility system, we must extensively introduce an economic contract system. This is an important measure in using economic means to cope with production and distribution within the framework of the collective economy. The contracts for production and for task completion concluded by the production team with groups, households and workers clearly specify the economic responsibilities assumed by the parties concerned. Such contracts can serve not only as plans guiding production but also as rules to be followed in correct handling the "three relationships." Where production teams are committed to contracts for task completion on a household basis, this can take the place of the previous year-end distribution programs. Therefore, we must fully arouse the masses to hold democratic consultations, so that economic contracts can be based on a mass foundation and on policy, become economic instruments which have a binding effect on both sides and also have the teeth of law.

In light of the actual conditions of our prefecture, economic contracts generally cover the following:

1) Under the guidance of state plans, production teams arranging to commit households to farming plans for staple crops and production quotas as the basis of production and task completion contracts;

2) Assigning the means of production, such as land, mountain forests, water surfaces, farm cattle, farm machines and implements, production facilities, etc, to commune members;

3) Assigning purchase quotas and special quotas for grain, cotton, oil-bearing crops, pigs, fish, poultry, eggs and other agricultural and sideline products to be sold by commune members to the state;

4) Deducting that which should be contributed by commune members to the production team's collective public funds which include public reserves, public welfare funds, subsidies for "five-guarantee" households and family members of militarymen and martyrs, family planning costs, expenditures on people-run primary schools and other necessary welfare funds;

5) Obligating commune members, where public welfare undertakings, voluntary work and so forth are concerned.

Economic contracts that are concluded after democratic consultations and signed by both parties must be observed and their fulfillment must be guaranteed. If one party purposely acts in contravention of a contract, the other has the right to hold the former responsible financially and even legally. If the production team tears a contract to pieces, its relevant responsible personnel should be held responsible. If a commune member who is bound by a contract breaks it, the production team, apart from exercising its right to reclaim land, mountain forests, water surfaces and other means of production assigned to him, can subject him to necessary financial punishment in order to ensure the fulfillment of an economic contract.

CSO: 4007/271

BEIJING RADIO COMMENTS ON AFFORESTATION DRIVE

OW090112 Beijing Domestic Service in Mandarin 1200 GMT 6 Mar 82

[Station commentary: "Strive For Results in Afforestation"]

[Text] The yearly arbor day is approaching. The national voluntary tree-planting campaign is gradually developing. In the upsurge of afforestation to cover the motherland with trees, we must strive for results, be responsible for the planting and survival of those trees planted and make sure that trees will grow into useful timber.

Since liberation, we have planted trees year after year and the areas afforested have added up to 1.3 billion mu. However, only 420 million mu of these areas have actually grown into forests, and some of the trees are of poor quality and of no value as timber. A great deal of manpower, material and financial resources and time have been wasted.

This year is the first year of the national voluntary tree-planting campaign. We must conscientiously sum up past experience and lessons, make a good start and strive for solid, good results. First, we must firmly establish the idea of quality first as our guiding thought and must not practice formalism.

Afforestation is a task of fundamental importance involving hundreds of millions of people. It must be well-planned and carried out in a well-prepared and organized way and with leadership. Everyone taking part in afforestation must earnestly fulfill his responsibility and make sure that every tree planted survives.

Next, it is necessary to practice scientific afforestation. Ours is a vast country with varying climatic conditions. It is necessary to select suitable tree stocks depending on local soil, weather, topographical and geomorphical conditions and other actual conditions.

Many people think there is not much to learn about planting trees. That is a misconception. Different trees have different living habits and characteristics and require very different natural conditions. We should follow the principle of planting trees according to local conditions and must not act rashly.

To achieve the expected results in afforestation, the key lies in effectively implementing forestry policies. It is necessary to ensure the "three fix's"--to fix mountain forest rights, rights to wastelands and the forestry production responsibility system--so the masses will not only have the enthusiasm in afforestation but will have a sense of responsibility for forest management. Only when policies are correct and remain stable for a long time will the masses' enthusiasm for afforestation be sustained. Only in this way will it be hopeful for trees to grow into useful timber.

Afforestation and covering the motherland with trees is an important strategic task and a great undertaking to benefit future generations. To change the lack of forested areas in our country and basically improve our country's ecological environment will require the hard work of several generations of people. A journey of 1,000 li begins with the first step. If we start now, work in a down-to-earth way and make solid progress, the great goal of covering the motherland with trees will assuredly be accomplished.

CSO: 4007/269

BEIJING VEGETABLE SUPPLY SITUATION REPORTEDLY IMPROVED

Beijing BEIJING RIBAO in Chinese 1 Jan 82 p 1

[Article by Wu Maodong [0702 2021 2767]: "Suburban Beijing Vegetable Farmers Last Year Sold 2.1 Billion Jin of Vegetables to the State. Vegetable Area Communes and Brigades Strictly Observe Policy of 'State Monopoly Purchase and Exclusive Selling Rights,' and Strictly Fulfil Contracts Signed with Commercial Units, Strive to Deliver to Market in Accordance With Quotas and Plans, Enthusiastically Serve the City, and Assure Vegetable Supplies in the Capital's Markets. Supplies Still Not So Good in Some Areas, With Not Much Seasonal Varieties in Some. Broad Masses of Vegetable Farmers Resolve to Further Upgrade Vegetable Output Levels to Make New Contributions in Providing Vegetables"]

[Text] The correspondent has learned from the authorities concerned that in 1981 suburban vegetable farmer sales of vegetables to the state totaled 2.1 billion jin. This is a manifestation of vegetable farmer love of country, having the cardinal principles in mind and taking the overall situation into account, concern for the overall situation, and caring about work style. They have enthusiastically served the city, and have made a contribution in assuring a vegetable supply to the markets of the capital city.

In 1981, Beijing was more than 90 percent self-sufficient in vegetables. These vegetables plus those brought in from elsewhere meant the daily marketing of close to 6 million jin for a daily per capita consumption averaging more than 1 jin for the residents of the city and towns of the municipal area.

Last year the vegetable growing areas of the municipality further instituted a program of "taking vegetables as most important," and "service to the city." While generally establishing various forms of a system of responsibility for production, all communes and brigades vigorously launched scientific farming. They gradually enlarged the growing area in preserves, actively promoted advanced farming techniques and superior varieties, and equitably adjusted crop sequencing. Taken together with favorable climatic conditions, this made for pretty good vegetable harvests and no lowering of output. This showed up rather noticeably during the slack season. Because of circumstances in the Beijing area, during the three months of April, August, and September in every former year, market supplies of vegetables have been fairly short, and in some years there has even been a dirth of them. Last year saw improvements in vegetable supplies during the slack season. In the 2 months of August and September alone, the vegetable growing areas provided the capital's market with more than 410 million jin of commodity vegetables for a situation better than in previous years. At the end of last December, the Municipal CCP Committee and Municipal Government held a conference in which 212 production teams received commendations and awards for their achievements in providing supplies during the slack season of August and September.

Under the guidance of the state plan, all communes and brigades in vegetable growing areas have striven in every way possible in accordance with market demand to produce varieties that sell. Things like persimmons, big chili peppers, and melons, fruits, and pulses rather favored by the people of the city have increased by more than 30 million jin over previous years for further changes in the composition of available varieties. During the months of June and July alone, more than 140 million jin of persimmons reached market, an increase of more than 30 million jin over the same period in previous years for a second all-time high, and for an initial change in the short supply situations of the past few years.

In order to assure market supply, each of the communes and brigades in the municipal vegetable growing area last year instituted a policy of "state monopoly purchase and exclusive selling rights," and strict fulfillment of contracts signed with commercial units to make market deliveries in accordance with quotas and plans. Numerous communes and brigades sold vegetables to the state whenever they had any, determinedly refusing to divide and sell them privately. During a very recent period, some unscrupulous dealers intent on speculation and profiteering scurried around the close-in suburbs offering high prices to vegetable growing teams for their vegetables. But cadres and commune members told them: We sell our vegetables to the state; we won't sell them to you at any price!

In summary, supply of vegetables was not bad last year, but was still not too good in some places, and some seasonal varieties were not very plentiful. Most recently the municiaplity put forward a policy of unswerving implementation of "taking vegetables as most important," to place vegetable production in a premier position. Vegetable production must be regulated mostly by plans; there can be no growing of whatever one likes. Vegetable fields must be cherished and neither permitted to be rented out nor used just as one likes. Scientific research should be strengthened to upgrade vegetable output. The broad masses of vegetable farmers have further upgraded vegetable output levels in accordance with municipal demand to make a new contribution in supplying vegetables during 1982 and succeeding years.

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INCREASES IN AVERAGE PER CAPITA COLLECTIVE INCOME DISTRIBUTIONS REPORTED

Income Up in 41 Counties

Fuzhou FUJIAN RIBAO in Chinese 16 Dec 81 p 1

[Text] Statistics from the province's rural work committee, which was convened a few days ago, show that in 41 of the province's counties and municipalities this year, rural village per capita income (the collective distribution portion) amounted to more than 100 yuan. This means a doubling over last year in almost two-thirds of the province's counties and municipalities.

In eight of these counties and municipalities the average per capita collective portion of income was more than 150 yuan. They were Sanming City, Changtai, Jianyang, Shaowu, Changle, Longhai, Zhaoan, and Jianning. Places in which per capita income averaged between 100 and 150 yuan included Nanping, Shunchang, Pucheng, Jianou, Songqi, Chongan, Guangze, Zhenghe, Ninghua, Mingqi, Yongan, Qingliu, Shaxian, Jiangle, Taining, Longqi, Minqing, Yongtai, Fuqing, Shanyou, Xiafu, suburban Xiamen, Xinglin, Tongan, Zhangzhou City, Nanjing, Zhangfu, Dongshan, Yunxiao, Huaan, suburban Fuzhou, and Huangcheng. Sanming City, which has been a front runner in the collective portion of average per capita income, this year took first position in the province again with an increase from 154 yuan to 175 yuan.

As a result of the implementation of various forms of a system of responsibility for production, arousal of the enthusiasm of the masses, adaptation of general methods to local situations to make the most of advantages, readjustment of agricultural crop patterns, and development of economic diversification, this year these communes and municipalities, in which the collective portion of average per capita income amounted to more than 100 yuan, won general all around increases in production and earnings in agriculture. In the 10 counties and municipalities of Jianyang Prefecture where the collective portion of average per capita income has been rather high for many years, per capita income averaging 136 yuan, every county averaged more than 100 yuan per capita, and in Guangze and Pucheng counties, per capita income increased 20 and 35 yuan respectively. In Zhangfu, Xiafu, and Yongtai counties, where average per capita income has been below the average for the province, an all around bumper harvest was obtained in this disaster year in both grain and economic diversification. Both grain and money were abundant, and the collective portion of average per capita income was more than 100 yuan, for increases of 30 and 40 yuan respectively, making them the counties with the greatest increase in income in the province. In Nanjing County, which this year sustained particularly heavy flood damage, though grain output suffered from the disaster, thanks to efforts in economic diversification the collective portion of average per capita income also increased from last year's 100 yuan to 114 yuan.

Increases in More Than 200 Brigades

Fuzhou FUJIAN RIBAO in Chinese 16 Dec 81 p 1

[Article by Zheng Yizheng [6774 5030 2973]]

[Text] Rural production brigades in the province with average per capita incomes (collective distribution portion) of more than 300 yuan rose in number from 53 last year to 224 this year, for a 3.2 fold increase.

This year's standout crop of production brigades were commonly characterized in the following ways: All were rather ideologically emancipated. They were able to conscientiously carry out party policies in rural villages and adept in administration and management leadership teams. They were able to build various forms of a system of responsibility for production in accordance with the desires of the majority of the masses. They were skilled in making the most of local manpower and resources for development of economic diversification and brigade run enterprises. The Yanling Production Brigade of Mantanghong Commune in Quanzhou City organically combined farming, forestry, livestock raising and sideline occupations, each of them promoting the other. As a result, the collective portion of average per capita income this year increased from last year's 280 yuan to 370 yuan, vaulting it into the ranks of the standout brigades. Yangfang Production Brigade in Chengguan Commune, Sha County is an advanced brigade that has developed farming, industry, and sideline occupations in an all around way. Last year its collective portion of average per capita income reached 310 yuan. Though early grain crop output this year declined as the result of calamity, thanks to the firm attention given economic crops and brigade run enterprises, income increased. In addition to the 600,000 yuan in public accumulation funds retained, an average of somewhat more than 324 yuan per capita remains for distribution to commune members.

Some production brigades sensibly readjusted the structure of their agriculture this year to make the most of local advantages, the economic benefits derived being more remarkable. Yaoxia Production Brigade in Guzhu Commune, Yongding County is suited to the growing of flue-cured tobacco. This year they had self determination, and the entire brigade made major plantings of flue-cured tobacco. Average per capita earnings from this crop alone amounted to 224 yuan. Caiban Production Brigade in Jiuhu Commune, Longhai County made the most of its advantages for the growing of narcissus flowers, expanding their planting to 140 mu. From this crop alone, increased per capita earnings amounted to 212 yuan, and the collective portion of average per capita income for the entire brigade this year may reach 530 yuan. Kengyuan Production Brigade in Shuangyang Commune, Zhangping County energetically developed production of dry bamboo shoots, and this year average per capita collective income may be more than 500 yuan. Some fishery production brigades along the seacoast implemented systems of responsibility after which both the catching and the hatching of aquatic products developed. Liansheng Production Brigade, in Guantou Commune, Lianjiang County and Haiqiong Production Brigade in Jingfeng Commune, Huian County had average per capita collective incomes of more than 1,200 yuan. The masses praised the system of responsibility for bringing prosperity to the brigade and plenty to the people.

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SHAOWU COUNTY COMMODITY GRAIN SETS RECORD

Ruzhou FUJIAN RIBAO in Chinese 11 Dec 81 p 1

[Article by Fang Yurui [2455 3768 3842], County Reporting Office; Li Shengyuan [2621 516B 3293] and Wu Peigen [0702 1014 2704], County Farm Office: "Shaowu Peasants Correctly Handle Relationships Among the Three. [State, Collective, and Individuals] Sales of Grain by Somewhat More than 1,600 Households Exceed 10,000 Jin, Average Per Capita Grain Sales Being 820 Jin to Exceed the All-time High"]

[Text] Shaowu County, northern Fujian Province's major commodity grain production area, reaped a bumper grain harvest this year after which the broad masses of commune members eagerly sold excess grain to the state. There were more than 1,600 households in the county that sold 10,000 jin of grain, commune members in five such households selling more than 20,000 jin. Commodity grain supplied the state from the county averaged more than 820 jin per capita to exceed the all-time high.

In Shaowu County, more than 70 percent of all production teams practiced a system of responsibility this year of either contracting production to individual teams or to individual workers, which aroused the enthusiasm for production of the broad masses of commune members resulting in a bumper agricultural harvest. Grain output for the county increased by more than 11 million jin over last year, and average per capita output of grain was 1,647 jin. Following the bumper grain harvest, the broad masses of peasants praised the party's policies and did not forget to support building of the four modernations, eagerly selling grain to the state. According to incomplete statistics, peasant households in the county who asked to sell more than 10,000 jin of grain numbered somewhat more than 1,690 a 1.5 increase over last year. Among them were five households of commune members who sold more than 20,000 jin. Xiedang Production Brigade in Dazhu Commune, and Gushan Production Brigade in Yanshan Commune, both of which had fairly tremendous increases in output, had more than 230 commune member households each of which asked to sell more than 10,000 jin of grain. Commune members in five households, including those of Chen Qingrong [7115 3237 2837] and Liu Wenzhong [0491 2429 1813] sold 60,550 jin of grain to the state from the first crop, and received a commendation from the commune. In Datian Production Team with 11 commune member households, seven households realized plans for households to sell 10,000 jin of grain. Commune member Zheng Zuowu [6774 0155 2976] sold the state 10,607 jin of grain from the first crop and another 9,500 jin from the late crop. Commune member Huang Youliang [7806 2589 5328] of Shuqian Production Team, Hushu Production Brigade undertook responsibility with the production team for the farming of 32 mu from which he harvested more than 15,000 jin of grain in excess of quota, and sold the state more than 20,000 jin of excess grain. Numerous peasant households not only sold much grain but sold good grain. Wangbanjie Production Team commune member Wu Peirong [0702 1014 2837] hired a vehicle and sent to the grain station for sale to the state more 10,600 jin of first quality well filled out paddy after he had dried and winnowed it. Somewhat more than 300 jin of paddy that had deteriorated as a result of having been soaked with rain, he kept for consumption.

Eagerness to sell grain on the part of the broad masses of peasants has given impetus to the work of grain units. In this county, grain units have set up an additional 10 grain purchasing sites and have sent 26 persons into rural areas to work with grassroots levels in grain procurement work. As of 6 December, the county had fulfilled 96.7 percent of its grain procurement quota. Because storage capacity cannot keep pace, some of the grain from the 10,000 jin of grain commune members has not yet gone into storage.

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PUTIAN PREFECTURE BOOSTS WHEAT GROWING

Fuzhou FUJIAN RIBAO in Chinese 7 Dec 81 p 3

[Article by Fang Zhunhua [2455 2182 5478], Putian Prefecture Liaison Station: "Putian Prefecture Has Planted 340,000 Mu of Wheat, Barley and Naked Barley. Adapts General Methods to Local Situation in Large Planting of Wheat"]

[Text] Putian Prefecture has made the most of its good natural resources and abundant workforce resources to do a conscientious job of winter planting. The prefecture has already planted 341,000 mu of wheat and barley for completion of 60 percent of planting plans.

This year Putian Prefecture got a head start on winter planting. During the autumn harvest, the Prefecture CCP Committee and government administrative offices convened meetings to make specific assignments of winter planting tasks. They called upon all counties and communes to conscientiously honor the self-determination of production teams, to adapt general methods to local situations in laying out winter planting plans, to do everything possible to grow more when more can be grown, and to take in hand winter planting, treating it as a major crop. Putian County began winter planting in mid-October, and now 70 percent of the wheat and barley area has been planted. Yongtai County organized a professional winter planting crops personally led by principal leaders who went into the fields to give specific guidance and help solve actual problems. The area to be planted to wheat and barley in the prefecture this year is 560,000 mu, 80,000 more mu than last year.

Additionally the prefecture has also planted more than 200,000 mu to rape, broad beans, and Chinese milk vetch.

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MORE SCIENTIFIC FARMING, GREATER AGRICULTURAL DIVERSIFICATION URGED

Fuzhou FUJIAN RIBAO in Chinese 30 Nov 81 p 1

[Article: "Next Year's Emphasis in Agriculture on Science and Technology and on Economic Diversification Is Proposal by Comrade Xiang Nan [7309 0589] at Provincial Finance and Trade Work Conference"]

[Excerpts] The secretary of the Standing Committee of the Fujian Provincial CCP Committee, Xiang Nan, said at the Provincial Finance and Trade Work Conference that the situation in agriculture in Fujian Province this year is very good. The guiding principle for the province's agricultural production next year should be the practice of two stabilities and two transformations. By this is meant the stabilization and perfection of systems of responsibility for production in agriculture as a foundation for shifting the work emphasis to science and technology; and while assuring steady increases in grain output to shift the work emphasis to economic diversification, including to forestry, animal husbandry, fisheries, and commune and brigade enterprises.

Xiang Nan noted that in the practice of a program of two stabilities and two transformations, in the field of science and technology Fujian Province would have to take in hand seeds and breeding, and come to grips with equitable use of fertilizer and water to upgrade standards in scientific farming to make the most of the power of agricultural science and technology. In the fields of forestry, animal husbandry, fisheries, and commune and brigade enterprises, the most should be made of Fujian's advantages in having many mountains and broad seas.

Wen Xiushan [3306 4423 1472], [member of the Standing Committee of the Provincial CCP Committee and director of the Provincial Agricultural Commission], said that the Provincial CCP Committee had recently made a study of the entire economic situation in Fujian Province and had proposed that the entire economy of Fujian, beginning in 1982 and after 3 or 4 years of efforts, should take off in 1985. By beginning is meant the year in which the rate of increase in total output value of agricultural production remains steady at around seven percent. By takeoff is meant the year in which the annual rate of increase attains double digits, i.e., above 10 percent. For all economic work, construction of eight bases is to be given serious attention in 1982, with a reading of a "testament to the mountains and the seas." Construction of four bases for forestry, animal husbandry, the fishing industry and economic crops is to be taken in hand. Launching of a socialist patriotic education campaign centering on "four upholds," "three multiple considerations," and "two oppositions" is to be done in an effort to fulfill an increase in total output value of agriculture of 300 million yuan, a 300 million jin increase in grain output, a 30 yuan increase in average earnings of commune members (including income from both the collective and from household sideline occupations), and control of the net natural rate of increase at 10.5 per 1,000.

Speaking to issues in the system of responsibility for agricultural production, Wen Xiushan said that we should continue to put into effect pertinent directives from the Central Committee, adhere to the principles of adaptation of general methods to local situations, tailored guidance, and permitting economic diversification without change. This is to say adherence to the collective road in agriculture for a long time without change, public ownership of the basic means of production (mostly land) for a long time without change, building of systems of responsibility for agricultural production in accordance with requirements of the collective economy for a long time without change, and permitting diversity in the forms of a system of responsibility for a long time without change.

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PROVINCIAL REQUIREMENTS ON SUGARCANE SET

Fuzhou FUJIAN RIBAO in Chinese 7 Dec 81 p 1

[Article by Provincial Sugar Refining Industry Company: "Proposal That Attention Be Given Several Problems During New Crushing Season Made at Cane Sugar Production Conference Convened by Provincial Government"]

[Text] The sugar mills in Fujian Province began crushing sugarcane in early December. The provincial government convened a cane sugar production conference at which it took up the new situations and new problems that had appeared in cane sugar production following institution of a system of responsibility for agriculture. It put forward several problems that should be focused on for solution during the new crushing season so as to assure fulfillment of production quotas for 420,000 tons of sugar during the 1981-1982 crushing season.

This year the province will harvest 706,000 mu of sugarcane, a 58,000 mu increase over the last crushing season. It is estimated that this area will supply more than 3.5 million tons of sugarcane for crushing. Sugar mill production capacity has also been further increased. Not only have 31 large and small sugar mills increased their crushing capabilities by more than 2,000 tons through tapping potential, making improvements, and restructuring, but four newly built 500 ton sugar mills have formally gone into production, and one 2,000 ton enlarged sugar mill has begun experimental production. Sugar production capacity in the province has increased by 60.8 percent over the last previous crushing season, an increase that is virtually commensurate with increase in sugarcane. In order to make full use of Fujian Province's advantages in producing cane sugar, comrades in charge from all the main sugar producing prefectures, municipalities and counties who attended this conference, all the principal departments involved, and leaders of the large and medium size sugar mills conscientiously discussed new problems that have occurred in cane sugar production since the institution of systems of responsibility for agricultural production, and made several requests about production in the new crushing season as follows:

1. Further strengthening of leadership engaged in cane sugar production. All major producing prefectures, municipalities, and counties are to be the specific responsibility of a deputy prefect, deputy mayor, or deputy county head. All units concerned in all prefects are to closely coordinate, divide responsibility for labor, and discover and solve problems in a timely fashion.

2. The work of cutting, hauling, purchasing, and looking after sugarcane is to be done conscientiously. Sugar mills are to buttress planning in their work and, on the principle of cutting the cane that ripens first, work out plans in common with communes and brigades for cutting and hauling, as well as sign economic contracts. Communes and brigades are to sell sugarcane to the state on time, of proper quality, and in proper quantity. Hauling of sugarcane will be done mostly by communes and brigades, sugar mills and hauling units playing an ancillary role in hauling, and the hauling potential of the people being used to the full. Hauling personnel are to submit themselves to regulation to do the hauling in accordance with plans. "Backdoor deals," and extortion are to be strictly punished.

3. Implementation of policies to win the confidence of the people. The grain, fertilizer, sugar, or money to be paid for procurement of sugarcane will be figured up by sugar mills and the authorities concerned for settlement with production teams. Production teams are to make settlement with commune members on the basis of the system of responsibility of fixing output quotas on a household basis, so that commune member income from increased output of sugarcane will be greater.

4. Strengthening of sugarcane management to improve economic benefits. Raw sugarcane is not to be permitted to enter market trade, and theft or looting of sugarcane is to be severely punished. No small sugar mills are to be set up in cane growing areas. That portion of sugarcane that large sugar mills are "unable to digest" may be crushed by small sugar mills, provided the Provincial Planning Commission approves. However, sugar output must be taxed according to regulations and procured by the state. Any sugar mills set up without authorization shall be outlawed.

5. Sugar mills are to improve administration and management and all around quality controls for further improvement in output and quality of sugar, improving the utilization rate per 10,000 tons of sugarcane by improving quality, lowering waste, and reducing costs.

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BRIEFS

TOTAL GRAIN OUTPUT--Fujian Province achieved an all-round bumper harvest in 1981 with total grain output surpassing a record high of 16 billion jin. The total output of longan, oranges and tangerines, flue-cured tobacco, tea, rapeseed and peanuts also reached a record high. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 10]

JINJIANG COUNTY LAND SALES--In 1981 grain output of Jinjiang County, Fujian, dropped by more than 10 million jin because large tracts of cultivated land had been used for building houses. In the townships of Qingyang, Shishi and Anhai, some people have even sold the plots, which are contracted to them for farming purpose, at the cost of 1,300 yuan per 0.1 mu. [OW161041 Fuzhou FUJIAN RIBAO in Chinese 4 Mar 82 p 2 OW]

JIANYANG PREFECTURE GRAIN OUTPUT--In 1981 Fujian's Jianyang Prefecture turned out 2.586 billion jin of grain, topping 1980 by 136 million jin, and procured more than 910 million jin of grain, topping 1980 by 121 million jin. [Fuzhou FUJIAN RIBAO in Chinese 4 Mar 82 p 2 OW]

CSO: 4007/284

FOCAL POINTS FOR AGRICULTURAL SCIENCE, TECHNOLOGY GIVEN

Shijiazhuang HEBEI RIBAO in Chinese 7 Dec 81 p 2

[Article by Li Feng [2621 6912], Deputy Provincial Governor Hebei Province: "Let Systems of Responsibility for Agricultural Production and Scientific and Technological Work Proceed in Tandem"]

[Excerpts] The urgency and importance of current attention to agricultural science and technology work must be further recognized. Since the Third Plenary Session of the 11th Party Central Committee, accompanying readjustment of the national economy has been an increasing recognition on the part of leadership cadres at all levels, and of the broad masses of the people, of the important position of science and technology work in development of the national economy. Accompanying implementation and perfection of various forms of a system of economic responsibility in the farflung rural villages has been emergence of the study of science, love of science, and use of science in a "craze for science and technology." In some places supply cannot keep up with demand for popular reading materials on agricultural science, in a situation of "difficulties in buying books." As a result of institution of systems of responsibility for production, linkage to production is like linkage to one's heart, and only through applied science and technology can yields be increased for increased earnings. Investigation by units concerned shows that peasants who have systematically mastered agricultural science and technology number only about 30 percent of the total. Forty percent of the peasants act as though they understand without really understanding, and another 30 percent, particularly a large number of youths between 20 and 30 years of age, have no grasp of farm work techniques. In the past they relied on their brawn to earn workpoints, but with the advent of contracting of production, they feel urgent need to study technology. Not only do peasants need to study technology, but rural cadres also urgently need to study technology, because blind guidance will not work, and executive orders won't have any effect either. The Central Committee has further clarified programs for scientific and technical development, suggesting that science and technology must be combined with economics and society, and that science and technology must serve the national economy to solve the problem of orientation of scientific and technological work. We need to diligently solve the problem of all levels of leadership not understanding, or not relying upon science, or shouting empty phrases, combining scientific and technological work with systems of responsibility so that they work in tandem to effect great changes in agricultural production.

Science and technology has to be converted directly into productivity as quickly as possible. Next year, we will take in hand the following seven scientific and technical tasks.

1. Continuation of agricultural resource surveys and agricultural zoning work. This is a basic task for the formulation of policies that relies on science.

2. Diligent action to develop research and spread the results of science and technology. Major projects in development of research are new varieties and new strains of wheat and demonstration experiments in use of water and fertilizer; new strains of cotton and superior varieties of cotton, and demonstration experiments in use of water, fertilizer, and prevention and control of diseases and insect pests; new strains and new varieties of millet, and demonstration experiments in scientific use of water and fertilizer; new strains and superior varieties of corn and demonstration experiments in scientific use of water, fertilizer, and prevention and control of diseases and insect pests; demonstration experiments on bumper crop techniques for potatoes; demonstration experiments using new strains and superior varieties of oil-bearing crops (such as peanuts, flax, and sunflowers); demonstration experiments on introduction of superior varieties ofpasture grasses and on use of green manure to improve soil; demonstration experiments on balanced increases in yields of fruit trees and on early fruiting culturing techniques for young orchards; demonstration experiments on new varieties and new techniques in the growing of melons; and demonstration experiments on maintenance of purity in breeding of rabbits, and research on lean meat hogs. In addition, the Provincial Bureau of Agriculture also proposed an equitable crop pattern for wheat varieties; culturing techniques for cotton varieties Lumian No 1, Jimian No 2 (Zhengchang No 1), Jimian No 3) (disease resistant variety); culturing of Qingdaolao summer millet; culturing techniques for strengthening wheat seedlings before the onset of winter; companion cropping of summer corn to preserve a full stand of stalks; disease resistant spring millet and lodging resistant summer millet; resistance to drought in mountain and hill regions to permit spring sowing for a full stand of plants; intercropping of grain and pulses; full stands of sturdy cotton seedlings that develop early; culturing techniques using plastic sheeting to cover the ground; increasing fertilizer for and increasing the number of clumps of peanuts transplanted plus reducing the number of buds [so those remaining grow larger], and giving early care; application of results of soil surveys; growing of green manure to nurture soil fertility; comprehensive prevention and control of cotton bollworms; and use of hybrid dominance in vegetables, providing such scientific and technical projects for promotion to all places for their consideration. Other individual bureaus under jurisdiction of the province also put forward their own projects to be emphasized for promotion, and gave much attention to their implementation. In addition, on the basis of their own situation in adapting general methods to local situations, all prefectures and counties made arrangements for promotion of their own projects.

3. A good job in the building of modern agricultural bases, with the launching at Luancheng and Nanpi of agricultural modernization experiments to explore the way.

4. Intensification of seed work. Concentration of forces to do a good job of experimental demonstration work with superior varieties of seeds and seeds that show promise of being superior varieties that are suited to growing in Hebei Province. Intensification of experimental research work on varieties that tolerate drought, tolerate alkalinity and tolerate poor soil, and improvement in organization and coordination in order to change as quickly as possible the backward condition of Hebei Province's seed work.

5. Taking in hand development for use of the Tahang mountain region, starting with high yields of fresh fruits, and the raising of small domestic poultry and small livestock animals to make use of the resources in the 24 counties of the Taihang mountain region.

6. Use and improvement of the Heilonggang region. This entails promotion, on the one hand, of the experiences of the Zhangzhuang Brigade in Quzhou County, and of Wuma Battalion in Nanpi County in clearing up alkalinity, and making the most of advantages of local farming traditions on the other, adapting general methods to local situations, using strengths and avoiding weaknesses to make full use of the soil resources of Heilonggang region.

7. Solution to technical problems in development of economic diversification, organizing scientific research, production, and marketing into a continuous process. In the raising of hogs, chickens, rabbits, and martens, superior varieties should be introduced and scientifically raised, epidemic diseases prevented and controlled.

Strengthening and Reorganizing of Agricultural Research and of Promotional Organizations. Institutes above the prefectural level engaged in research on farming, forestry, irrigation, meteorology, and fisheries should be strengthened, and a good job done with the several institutes of the Academy of Agricultural Sciences. Major current problems should be focused on and major research projects in farming, forestry, animal husbandry, sideline occupations, and fisheries should be drawn up on the basis of conditions in the province, and efforts coordinated to serve agricultural production. In doing research, in addition to research on individual projects, importance should be given macrocosmic, comprehensive research. Agricultural research units are to abide by major decisions on agricultural problems. Promotional organizations below the county level require improvement. All counties should set up promotion stations with subordinate specialized teams. Every commune should arrange to have one qualified technician, who is excused from production work, whose responsibility it is to give attention to promotion work. In addition an organization of peasant technicians, both those partially excused from production work and those not excused from production work, should be formed. When technical positions are being evaluated, promotion personnel are not to write slanted articles, but are to look at technical accomplishments, technical standards, and professional capabilities of personnel. Those having conspicuous accomplishments are to be given rewards. Commune farms, superior variety farms, and production brigades and production team demonstration farms are to continue operation.

A Good Job of the Popularization of Science. Commune science popularization societies and production brigade science popularization propaganda stations are to be set up and perfected. Rural agricultural technicians, veterinary personnel, teachers as well as those possessing specialized skills, and the broad masses of cadres who support science popularization work should be organized.

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FOUR COUNTRIES ACHIEVE BUMPER HARVESTS DESPITE DISASTERS

Qing County Scores Successes

Shijiazhuang HEBEI RIBAO in Chinese 8 Dec 81 p 1

[Text] Qing County has actively promoted various forms of a system of responsibility linking compensation to output, has adapted general methods to local situations in readjustment of crop patterns, had developed economic diversification and commune and brigade enterprises, and has triumphed over serious drought and wind disasters for all around increases in output and earnings from farming, forestry, animal husbandry, sideline occupations, and fisheries.

This year, despite a 700,000 mu reduction in its grainfield area, the county's grain output increased over last year, output totaling 180 million jin. The county contributed 21 million jin to the state, an 87.3 percent increase over last year. It also realized "10 breakthroughs" as follows: First was in total autumn grain output, output this year being seven percent greater than the all-time high year since founding of the People's Republic. Second was output value from economic diversification, which increased 14.5 percent over the all-time highest level. Third was output value from commune and brigade enterprises. Forecasts call for achievement of 76.56 million yuan, a 440,000 yuan increase over the all-time high level. Fourth was commodity output of agricultural byproducts, which was 18 percent higher than the all-time high level for the same period. Fifth was a total output value of agriculture this year amounting to 94.7 million yuan, a 12.6 percent increase over the all-time high. Sixth was average per capita distribution of earnings, which was 110 yuan, a 16.5 percent increase over the all-time high. Seventh was total amount of commune member savings, which amounted to 8,474,000 yuan between January and October, a 22.5 percent increase over the all-time high for the same period. Eighth was total retail sales of goods, which amounted to 52.45 million yuan for the period January to October, an 11 percent increase over the all-time high for the same period. Ninth was the building of more than 30,000 new houses by commune members, a 23 percent increase over the all-time high. Tenth was that as of the end of October large livestock animals in inventory in the county numbered 29,207 head, an increase of 4,197 head over the all-time high for the same period for an increase of 16.7 percent.

Today in the farflung rural villages of Qing County, the peasants have money and they have grain; an increasing number have bought furniture, added new equipment, taken wives, or built new houses. In the cities and countryside of the county the economy is flourishing and markets are brisk, presenting a delightful picture of happy people in a fat year.

Lincheng County's Sesame, Pulse Production

Shijiazhuang HEBEI RIBAO in Chinese 8 Dec 81 p 1

[Text] This year Lincheng County contracted out to commune members, who submitted bids, its poor hill lands that lay uncultivated, and land in out of the way places for the growing of sesame and pulse crops, deriving tremendous increases in yields therefrom. Total output of sesame in the county may reach 1.4 million jin, and total output of pulses may reach more than 3 million jin, these outputs being close to the totals for the past 10 years in each case. Sales to the state of 650,000 jin of sesame have been made. This is 35 percent more than the total sold the state during the past 10 years. Pulse sales amounted to more than 440,000 jin, more than double the total amount sold to the state during the past 10 years. Throughout the county a large number of households that harvested more than 1,000 jin of sesame and pulses has appeared.

Ding County Grain Output Records

Shijiazhuang HEBEI RIBAO in Chinese 8 Dec 81 p 1

[Text] Despite serious calamities this year as a result of drought, wind, diseases, and insect pests, Ding County's grain yields per unit of area amounted to 685 jin, a 52 jin increase over last year. Total output was 587 million jin, an increase over last year of 39 million jin. Both were all-time highs.

In order to do a good job of agricultural production this year, all communes and brigades in Ding County took firmly in hand the perfection and upgrading of systems of responsibility for agricultural production. Now 94.7 percent of production teams in the county have instituted various forms of a system of responsibility for production, which has aroused the eagerness for production of the broad masses of cadres and people. On this basis, they have also given attention to scientific farming. Leadership cadres, technicians and technical mainstays throughout the county who have received various kinds of training total more than 370,000. In addition, systems of personal responsibility for technicians have been established to arouse their enthusiasm to give guidance to peasants in farming to assure bumper harvests in agriculture.

Bumper Production in Weichang

Shijiazhuang HEBEI RIBAO in Chinese 8 Dec 81 p 1

[Text] Weichang County's practical action in developing livestock production and promoting systems of responsibility in which compensation is linked to output has aroused the enthusiasm of the peasants. This year the county's grain output may reach 226 million jin, a 43 million jin or 22 percent increase over last year. The livestock industry created all-time high records. Large livestock animals number 120,700 head, an increase over last year of 6,700 head for a six percent increase. Sheep and goats number 386,000 head, an increase over last year of 57,300 head for a 21.1 percent increase. Throughout the county 22,059 slaughter sheep have been purchased by the state this year for a 91.8 percent overfulfillment of quotas.

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HENGSHUI PREFECTURE SUCCESSES IN LINKING EARNINGS TO OUTPUT HAILED

Per Capita Income Increase in Gucheng

Shijiazhuang HEBEI RIBAO in Chinese 5 Dec 81 p 1

[Text] The 1,124 people in 297 households in the six production teams of Wuhu Production Brigade, Gucheng County farm 2,664 mu of land. Prior to the Third Plenary Session [of the 11th Party Central Committee], this production brigade was known throughout the country as "poor in three ways." Its grain yields were just a little more than 300 jin per mu; its cotton yields were just a little more than 30 jin per mu; and per capita income averaged just a little more than 110 yuan. This year, after instituting a system of responsibility of specialized contracting, calculation of compensation being linked to output, despite severe drought, grain yields reached 1,474 jin per mu; cotton yields reached 190 jin per mu, and per capita income averaged 957 yuan. In one leap it became the advanced unit in the prefecture.

How can such a great change take place within such a short period of time in a poor and backward village? The key lies in the CCP Committee and the Management Committee of this brigade having diligently acted in the spirit of the Third and Sixth Plenary Sessions [of the 11th Party Central Committee] to integrate realities with leftist criticism and criticism of the leftist errors of the principle persons in charge of the former Provincial CCP Committee, to emancipate mentality, and to act in terms of realities in the brigade to put into effect a system of responsibility of specialized contracting whereby compensation was calculated in terms of output. At the same time, they readjusted the internal structure of agriculture to expand the cotton growing area, and vigorously developed both economic diversification and commune member household sideline occupations. Acting on the basis of the activities in which the entire village was engaged and the skills of its workforce, as well as on the desires of its people, they set up individual specialized farming teams, specialized cotton growing teams, specialized sideline occupation teams, specialized machine maintenance teams, and specialized forestry teams. They also instituted a work contract system of responsibility for grain grinding mills, shops selling on commission, and medical treatment stations, signing individual contracts with each of them, which were reconciled at year's end. In the case of cotton production contracted by commune members, an output of 80 jin per mu was paid, with a bonus of 0.70 for every jin in excess of this quota, all amounts greater than

than 120 jin per mu going entirely to the growers. In the case of sideline occupation teams with 95 people in them, annual earnings were set at 16,000 yuan. Once this quota was reached, each person had 10 workpoints recorded daily. At year's end, 50 percent of earnings in excess of quota and up to 20,000 yuan were retained as bonuses for sideline occupation personnel. Earnings of more than 20,000 yuan were entirely distributed as bonuses to sideline occupation personnel. In the case of shops selling on commission and medical treatment stations, fixed numbers of employees and fixed annual earnings were set, the employees bearing sole responsibility for all profits and losses.

After Wuhu Production Brigade instituted a system of responsibility of specialized contracting, calculation of compensation being linked to output, full advantage was taken of workforce and material resources. All around bumper crops of grain, cotton, and oil-bearing crops were harvested in a year of severe drought; accumulations were further increased; and reproduction expanded.

Zaoqiang County's Greater Output, Earnings

Shijiazhuang HEBEI RIBAO in Chinese 5 Dec 81 p 1

[Text] Puzhuang Production Brigade in Tanglin Commune, Zaoqiang Country has six production teams consisting of 313 households. This is a notoriously poor village where, in most years, labor is valued at 0.10 to 0.20 yuan, or sometimes as little as 0.07 to 0.08 yuan. No bonuses have been paid here in 12 years. The village has 60 bachelors over the age of 25, and annually 60 members of its workforce leave the village for elsewhere, so 1,500 mu of its cultivated land has been left uncultivated. This year, following institution of a system of responsibility, the enthusiasm for production of commune members reached unprecedented heights. Total output of autumn grain alone increased 2.4 fold over total output for all of last year; total output of cotton increased 5.1 fold over last year; and per capita earnings increased by an average 6.8 fold over last year.

This brigade had implemented a work contracting system of "three unifieds" and "five fixeds." The "three unifieds" were unified planting plans, unified watering of land, unified eradication of insect pests. The "five fixeds" were fixed plots of land, care and use of fixed farm animals and farm tools, fixed subsidy payments to cadres and people not engaged in production, fixed care [of the indigent] and fixed withholdings. In order that this system of responsibility would be steadily improved upon, the brigade CCP branch and management committee made sure to constantly study new situations and promptly solve new problems. They took practical action to eradicate commune member apprehensions. At first commune members feared the system of responsibility might change, so they dared not put an investment into the fields for which they were responsible. Party branch secretary Li Jun'ge [2621 0193 2706] thereupon took the lead in making an investment, fertilizing the fields for which he was responsible with 160 jin of urea and 50 jin of ammonium carbonate to spur commune members on. In three production teams, plots that had been contracted out were scattered, making it inconvenient for commune members to farm them. Brigade cadres helped these three teams readjust these plots, changing the system from contracting for the total amount of fields to contracting for individual parcels. After contracting work had been done, a large amount of surplus workforce remained. In order to find opportunities for this surplus workforce, 500 mu of land that had been left uncultivated were contracted to commune members for farming, the cotton growing area being expanded by 200 mu, and the oil-bearing crop area by 300 mu. Help was also given commune members in development of economic diversification, the brigade seeking opportunities, issuing certifications, and handling procedures. This year 65 households are firing bricks and tiles; three households are keeping bees; six households are doing carpentry work; four households are operating turpentine making shops; five households are operating beancurd making shops, five households are making vermicelli; three households are processing rice noodles, and three households are working rubber. In addition, two specialized construction teams with a total of 30 people, have been set up. In this way 127 households in the brigade, a workforce of 180 (amounting to 42 percent of the total workforce) has been put to work at economic diversification or household sideline occupations, and an unprecedently flourishing scene has taken place in agricultural sideline occupations. Though farm animals and farm tools much increased following contracting of work responsibility, both were insufficient to the needs of commune members' farming. In order to solve this problem, brigade cadres went around to each household to make a full registration. They organized each household for mutual cooperation, and they organized use of machines for farming so that every household will be able to plant wheat on time this fall.

High Grain Output in Hengshui County

Shijiazhuang HEBEI RIBAO in Chinese 5 Dec 81 p 1

[Text] Xili Production Brigade in Heyan Commune, Hengshui County has two production teams consisting of 63 households. This year they have instituted unified management with a system of responsibility whereby fixed output quotas are assigned individual able-bodied workers, winning extraordinary economic results, and the appearance of a large number of "outstanding households" with high outputs, high contributions to the state, and high earnings. The 12 households in the production brigade with annual outputs of 10,000 jin each account for 20 percent of all households in the village, five of them having produced 10,000 jin of grain from the fall season crop alone. Twenty households sold more than 5,000 jin of surplus grain to the state in the fall (the brigade tendered the summer crop). These 20 households accounted for 31.7 percent of the total number of households in the village. The 23 households with distributions from the collective averaging an annual more than 300 yuan per capita amount to 37 percent of the total number of households in the village.

In its practice of unified administration with a system of responsibility whereby fixed output quotas were assigned individual able-bodied workers, this brigade formulated collective adherence to six unifieds, namely unified planting plans, unified machine farming, unified watering, unified investment, unified assignment of workforces, and unified distributions. It practiced "three contracts and one reward," namely contracting for labor, contracting for output, and contracting investment, with commune members getting full rewards and being responsible for all losses incurred. This system was guaranteed not to change for a period of 3 years. Once this form of a system of responsibility was set, commune member eagerness for production immediately zoomed. After care of wheat began this spring, the brigade was supposed to invest a certain amount to buy chemical fertilizer for commune members, but the brigade was out of maney at the time. So 38 commune member families took the initiative in advancing the brigade money, which was used to buy 8,600 jin of chemical fertilizer. The brigade planned to repair 2,300 meters of field ditches to stop them from leaking, and commune members went right to work. Now 1,300 meters have already been prepared. The production brigade CCP branch focused on new problems that had arisen following implementation of the system of responsibility, and buttressed ideological and political work. For five commune members whose tending of the fields for which they were responsible was good, citations of merit were promptly issued, commune members throughout the village were called upon to emulate them, and their experiences were spread throughout the production brigade. For hardship households comprised of the old, the weak, the orphaned, the widowed, and those that had lost their able-bodied members, the brigade arranged to send special people to grind flour and provide such farm work as their strength would permit to make sure that their livelihood would be no lower than the median. In addition, following practice of the system of responsibility, some households took the initiative to link up, exchange labor and help each other, the brigade lending support and encouragement so that mutual assistance became the order of the day throughout the village. In this way, this brigade's unified administration with a system of responsibility whereby fixed output quotas were assigned individual able-bodied workers brought huge forces into play, and output of grain and oil-bearing crops exceeded the all-time highs.

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OIL-BEARING CROP OUTPUT--Hebei Province created a historical level of oil-bearing crop production in 1981, reaching a yearly yield of 900 million jin, 100 million jin more than the past record. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 13]

CSO: 4007/264

AGRICULTURAL READJUSTMENT, MECHANIZATION, RESULTANT LABOR SURPLUS DISCUSSED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 12, 5 Dec 81 pp 15-16

[Article by Luo Jingbo [5012 0513 2672], Research Office, CCP Central Committee Secretariat: "A Look at Readjustment of the Agriculture Structure in Terms of Heilongjiang"]

[Excerpts] Results Remarkable From Readjustment of Structure of Agriculture

Heilongjiang's main farming areas are located on the alluvial plains of the Sunghua and Nen rivers, and on the marshy plain at the confluence of the three rivers [possibly the Mutan Jiang, the Tangwang He, and the Tongken He]. This area is large, the soil fertile, water abundant, and hours of sunshine long. They constitute the greatest naturally richly endowed commodity grain bases. However, during those years under a program of "taking grain as the key link," when only the production of grain was deemed important and when even the world renowned and nationally highly favored "northeast soybeans" were forced out because of their "low yields," and when attention was given only to "high yield crops" such as corn soybeans had to be companion cropped with corn, having no choice but to "seek survival in any crack." This situation did not permit grain output in Heilongjiang to achieve the development it should have achieved. It was not until 1977 that grain output for the province amounted to somewhat more than 22 billion jin. Commodity grain provided that year amounted to only somewhat more than 6 billion jin.

Following the Third Plenary Session of the 11th Party Central Committee, the Heilongjiang Provincial CCP Committee acted in a practical way to diligently implement the Central Committee's program of giving attention to planting in accordance with local conditions, and the development of economic diversification. First of all, it designated grain and bean growing zones and miscellaneous grain growing zones according to natural conditions and traditional farming practices, and implemented scientific regionalization in farming. For example, it designated the Nenjiang administrative region, with its short frost-free period, a production zone for wheat and beans, and designated the Suihua administrative region's numerous counties as zones for growing of paddy rice, to convert sandy land to the growing of peanuts, and to continue the growing of corn on high downlands. The masses liked this, which made easy the preservation of millet, the sown area of which has also greatly increased during the past 2 years. As a result of readjustment of the crop structure, despite serious natural calamities, Heilongjiang's grain output in 1979 and 1980 equaled that of the bumper year of 1978, amounting to more than 29 billion jin. Commodity grain output also rose from 9.6 billion jin in 1978 to 11 billion jin in 1980. This year, except for a serious decline in output of state farms in the east as a result of serious flooding, a good harvest is expected.

Concurrent with readjustment of the internal structure of grain crops has been appropriate expansion in Heilongjiang in recent years of the growing area of sugarbeets, flax, sunflowers, and flue-cured tobacco, which have been fairly rapidly increased to more than 10 million mu, an increase from a 4.7 percent ratio of total area sown in 1977 to 7.9 percent. This year the area sown to economic crops has been further expanded, increasing by 15.6 percent as compared with 1980.

The Provincial CCP Committee has also further liberalized policies for some impoverished counties and communes to encourage them to proper further development of some economic crops.

Mutual Advancement of Agricultural Mechanization and Economic Diversification

The lessons of the past have been summarized for concentrated investment, during the past 2 or 3 years, in mechanization and complete equipping of Heilong's agriculture. Mechanization as been done first in prosperous areas and in areas where results can be quickly obtained, thus using a set of methods that stress practical results and economic benefits. For example, during the past 3 years, the state has provided 14 million yuan in loans for agricultural mechanization to Keshan County, 8 million yuan of which can be recovered as early as this year. Loans given in any given year can be entirely recovered following the autumn harvest in the same year.

Following agricultural mechanization, usually a very large surplus of workforces results. For example, in the rural villages of Keshan County, 85 percent of the work force formerly was engaged in farm work; today it is only 50 percent. In some miscellaneous grain growing areas, in particular, where the average number of people required to farm the land is somewhat less, the proportion of surplus workforce is even greater. What is to be done with this resultant surplus workforce? This has been a very great consideration in the promotion of agricultural mechanization. Today, however, a way out has been found under guidance of a program for development of economic diversification. First is putting together all kinds of specialized teams for the accumulation of manure, breeding, vegetables, fruits, and field water conservancy, to do intensive farming, and to make advances in depth and in breadth in agricultural production. Second is development of forestry, animal husbandry, sideline occupations, and fisheries to broaden avenues of production. Third is development of commune member family sideline occupations, making use of private plots, land for the growing of animal fodder, and land for the growing of fuel crops, and developing family growing and family hatching industries. Fourth is operation of commune and production brigade industries. Fifth is development of contruction material and construction industries for the building of new farm villages and small cities and towns. Sixth is operation of restaurants, hotels, photographic, tailoring, and repair facilities.

Agricultural mechanization and economic diversification advance each other and complement each other. Prior to mechanization, numerous communes and brigades relied on economic diversification to increase income and accumulate funds for mechanization. Following mechanization, they again depended on economic diversification to provide opportunities for surplus workforces. Development of mechanization has smashed the narrow outlook of handicraft labor, permitting a division of labor and a division of trades for production, and also giving impetus to development of specialization in economic diversification.

The all around development of agricultural production has raised numerous new requirements in all quarters that await solution:

1. Increased attention to making the most of the power of science and technology.

2. Urgent need for enhancement of processing of agricultural byproducts, their transportation and sale.

3. Full use of Heilongjiang's role as the largest commodity grain base in the country. In order to promote national economic development and gradually reduce grain imports, Heilongjiang has to be able to gradually supply the country more commodity grain, particularly to provide the nutrient-rich soybeans that the people of the entire country need. In order to solve this problem, contradictions existing between the central government and localities, and between the state and the people, on grain problems have to be better solved to further arouse their enthusiasm for production of grain and beans.

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BUMPER HARVEST DESPITE 100 DAYS DROUGHT REPORTED

Wuhan HUBEI RIBAO in Chinese 5 Dec 81 p 1

[Article by Wang Xinchao [3769 2450 2600] and Han Chaoxiong [7281 2600 7160]: "State Support Wins Bumper Harvests, and Bumper Harvest Do Not Forget Support to State. Despite 100 Days of Severe Drought This Year, Jingmen County Harvests 1.1 Billion Jin of Grain. Bumper Crop Peasant Households Tender State 440 Million Jin of Grain For Overfulfillment of Requisition Purchase Quotas"]

[Text] Peasants in Jingmen County, who won bumper harvests through reliance on state support to triumph over serious drought, have eagerly sold their surplus grain to the state. The country has already sold 440 million jin of grain to the state for overfulfillment of its requisition procurement grain quotas for the year.

Jingmen Country grows 1.2 million mu of paddy rice, making it one of the province's principal commodity grain bases. Between April and August this year, the county had not one soaking rain and suffered a serious 100 day drought. Thanks to arousal of the enthusiasm of the masses as a result of the system of responsibility that linked compensation to output, the irrigation benefits derived from state constructed water conservancy projects, and the vigorous support rendered by industry, and by finance and trade units, the drought was overcome and a bumper harvest won, the county's grain output totaling 1.1 billion jin. According to statistics, this year the county put to work in combat against drought more than 6,200 pieces of power machinery with more than 150,000 horsepower. All of the more than 10 large and small electrically powered irrigation stations on Huangdang Lake and Chang Lake, which had been built with capital invested by the state, were used, consuming more than 24 million kilowatt hours of electricity. During the height of combat against drought, Zhanghe Reservoir daily pumped more than 40 cubic meters of water per second, providing more than 300 million cubic meters of water to assure a bumper harvest for the irrigation zone's major rice producing communes of Yandun, Tuanlin, Wuli, Shili, Shiqiao, and Zengji. Industrial, and finance and trade units promptly provided rural villages with large amounts of chemical fertilizer, pesticides and diesel fuel. Agricultural scientific and technical units organized more than 8,000 technicians to go down to the grassroots to provide guidance to peasants in scientific farming. The peasants said. With this year's severe drought, but for the party's good policies, the country's timely support, and Zhanghe Reservoir's assured irrigation, a great disaster could have taken place. Now it is rice resulting from policies that we are eating, and socialist prosperity that we are enjoying.

Following the bumper grain harvest, everyone eagerly sold their excess grain to the state. Peasants from Wuli Commune in the Zhanghe irrigation zone, remembering the source of their prosperity, sold to the state 5.5 million jin of grain over and above fulfillment of their requisition procurement quotas. Every one of the 181 production brigades that last year received government assistance when stricken with an especially severe flooding and waterlogging disaster, this year harvested a bumper crop. One hundred sixty of these production brigades sold to the state a total of 140 million jin of surplus grain. As of mid-November, the number of households in the county that had sold the state from 10,000 to 30,000 jin of grain numbered 8,030.

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DEGRADATION OF LOCAL ECOLOGY BLAMED FOR FARMING PROBLEMS

Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 11, Nov 81 p 16-18

[Article by Wang Zhongqin [3769 0022 2953], Huanggang Prefecture Science Commission: "Discussion of Farmland Construction Problems in Huanggang Prefecture"]

[Excerpt] Huanggang Prefecture has 7,377,000 people and only 6,961,000 mu of cultivated land, the average amount of cultivated land per capita being less than two-thirds the national average. With such a small amount of farmland, if agriculture is to improve further work in building farmlands is clearly particularly important. We have won remarkable achievements in the building of farmland and water conservancy since Liberation; however, in terms of total needs, our building of farmlands is not yet over the hump. As of 1980, effectively irrigated farmland area in the prefecture totaled 5,777,000 mu, or 83 percent of the total area. The area from which harvests could be taken despite waterlogging or drought totaled 4,096,000 mu or 58.8 percent of the total area. The area producing consistently high yields was 2,584,000 mu or 37.1 percent of the total. This is to say that under normal circumstances, one-sixth of the farmland would be difficult to irrigate; in years of normal harvests, most fields would not produce high yields; and in years of slight disaster, almost one-half of farmlands would be threatened with drought or waterlogging. In 1979 total grain output broke 6 billion jin (not including Echeng, the same applying elsewhere in this article). This represented a twofold increase over 1949. However, in the course of 30 years, consecutive yearly increases occurred only in the three year period from 1955 to 1957, while consecutive yearly decreases were limited to the 4 year period 1966 to 1969. Cotton output fluctuated for 8 years following 1965 creating a total output record only in 1974, while yields per unit of area fluctuated for 13 years, a breakthrough taking place only in 1979. Reasons for inconsistent yields are numerous, but in terms of the internal agricultural situation, one of the major reasons was that the building of farmlands was not up to snuff.

First of all the soil presented many obstacles to high crop yields. Take Xishui County where a second soil survey has been completed. The country has 12 percent of wetlands and 48.5 percent of drylands, an overly large amount of them having sandy soil. About 30 percent are cold, waterlogged, muddy fields, low-lying lake or river fields, and intermediate blue mud fields. Soil nutrients are imbalanced, and the soil is seriously deficient in phosphate and potash, 72 percent of cultivated land lacking phosphate, and 46 percent lacking potash. Soils are slightly acidic, those with a pH of less than 5.5 accounting for 38.5 percent of the total. If the situation in Xishui County, which has a fairly good basis for agricultural production, is like this, the situation in other counties may be imagined.

The natural ecological system in which the farmlands are located have also been seriously damaged. Data from authorities concerned show that, at the time of the general survey in 1975, land in the prefecture used for forestry had decreased by 3.36 million mu since the period immediately following Liberation, a decline of 23.1 percent. Despite a forested area of 8,653,000 mu, timber reserves averaged only 1.2 cubic meters per mu or only one fourth the national average. Furthermore, the three manys in the composition of forests, namely many young and mid-age forests (accounting for 97.1 percent), many coniferous forests (pine and fir accounting for 94.9 percent), many natural forests (accounting for 59.5 percent), and the three fews in the structure of forests, namely few branches, few grassroots level forests, and few areas with a vegetation cover, greatly reduced the role of forests. Take the quantity of erosion in forests. Data from inside China and from abroad indicate that soil erosion generally averages about 2 tons per square kilometer of forest, but measurements taken by the Shiqiaopu water and soil conservation station in the prefecture show forest soil erosion to be more than 78 tons. In 1980 the eroded area of the prefecture amounted to 8,256.7 square kilometers or 38.6 percent of the prefecture's total area, and 2,466.2 square kilometers of this total or 30 percent of the area needing control, has yet to be brought under control. Calculations based on the soil erosion modulous for various kinds of topography as measured by the Shiqiaopu water and soil conservation station, show that from the more than 2 million mu of barren mountains, cultivated slopes and low standard terraced fields, annual erosion amounts to 4,234,000 tons of soil. The serious soil erosion causes many riverbeds to rise by an average more than 3 centimeters annually, and silt entering reservoirs throughout the prefecture averages 6,341,000 cubic meters annually, which amounts to the scrapping of one medium size reservoir every year. As a result of the reclamation of lakelands to create fields, by 1980 lake water surfaces for the entire region amounted to only 500,800 mu or only 41.4 percent the area immediately following Liberation. As a result the agricultural climate has tended to deteriorate. Analysis of 30 consecutive years of meteorological data by the Wuhan and Huanggang meteorology stations shows an average decline in precipitation of 179.5 millimeters during the 1960's as compared with the 1950's, and a decline of 94.2 millimeters in the 1950's as compared with the 1960's. The longest consecutive number of days without rain in a year averaged an increase of somewhat more than 2 days per decade. The longest consecutive number of days of rainfall and amount of rainfall, in a situation of decreased rainfall, increased slightly in the 1970's as compared with the 1950's. This shows a tendency toward concentration of periods of precipitation during a decline in volume of rainfall, which can easily result in drought or waterlogging disasters.

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BRIEFS

NANTONG PREFECTURE FIELD MANAGEMENT--Jiangsu's Nantong Prefecture is stepping up management of its more than 4.5 million mu of wheat, barley and naked barley. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 13 Mar 82 OW]

CSO: 4007/284

BRIEFS

ANFU COUNTY CATTLE--Jiangxi's Anfu County now has more than 50,000 cattle in stock. The number of cattle raised by peasant families has exceeded 13,000 head. [OW091403 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 3 Feb 82 OW]

NANFENG COUNTY GRAIN PURCHASE--Nanchang, 11 Mar (XINHUA)--Some 140 million jin of grains were purchased in Nanfeng County last year, exceeding the purchase quota by approximately 100 million jin. Total output of oranges in 1981 reached 17 million jin, an increase of 12 million jin over 1976. Individual income reached an average of 224 yuan last year, an increase of 65 yuan over 1980. [Beijing XINHUA Domestic Service in Chinese 0207 GMT 11 Mar 82 OW]

CSO: 4007/284

BRIEFS

TOTAL GRAIN OUTPUT--Jilin Province in 1981 reached an overall agricultural bumper harvest with total grain output of 18.34 billion jin and total oil-bearing crop output of 650 million jin. Both figures are a record, 7 percent and 23 percent over the bumper harvest of 1980 respectively. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 11]

CSO: 4007/264

BRIEFS

SOWN AREA INCREASED--The sown area in Liaoning Province using the new technique of plastic mulch cultivation increased 65,000 mu over that of 1980. The yield per unit area for rice, cotton and peanuts was more than double that of the areas using regular cultivation techniques. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 9]

CSO: 4007/264

BRIEFS

GROSS INDUSTRIAL, AGRICULTURAL VALUE--The 1981 gross value of industrial and agricultural output reached 8.4 billion yuan for the entire region, a 4.5 percent increase of the 1980 figure. The average gross value of industrial and agricultural output per capita has thereby restored to the highest historical level. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 15]

TOTAL GRAIN OUTPUT--Under severe drought conditions, the 1981 total grain output in Nei Monggol has increased 2 billion jin, a record. The number of livestock in 1981 increased 3.6 percent over 1980. The number of livestock removed from inventory and the commodity rate were also up in 1981. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 15]

SPRING LAMBS--Ulan Qab League in Nei Monggol Autonomous Region has engaged in lamb delivery work. The league has delivered 252,000 spring lambs. The survival rate is 94 percent. [SK072207 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 6 Feb 82]

CSO: 4007/269

BRIEFS

LIVESTOCK OUTPUT--The number of livestock of every breed in Qinghai Province has increased by 3.39 million head over 1980, a 15.6 percent rate of increase. The number of cattle and lambs removed from inventory was 3.01 million head, a 1.6 million head increase over the previous year. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 15]

CSO: 4007/264

SHAANXI REALIZES SELF-SUFFICIENCY IN EDIBLE OIL IN 1981

Beijing GUANGMING RIBAO in Chinese 11 Jan 82 p 1

[Article: "Rely On Scientific Planting to Change the Situation of Consuming Reissued Edible Oil for 14 Years, Shaanxi Province Realized Self Sufficiency With Surplus of Edible Oil Last Year"]

[Text] Report by reporter Liu Binggi [0491 3521 3823]: Shaanxi Province which has consumed reissued edible oil provided by the state for 14 years has realized self sufficiency in edible oil in 1981. In 1980, the total yield of oil bearing crops throughout the province has reached 219.4 million jin, creating the highest record in history. The amount produced in 1981 registered an increase of 50 percent over 1980, breaking the 300 million jin mark.

A very important reason for Shaanxi Province's rapid development of its production of oil bearing crops was the popularization of advanced techniques in a big way and the implementation of scientific planting besides the party's policies which mobilized the enthusiasm of the commune members and besides the readjustment of crop distribution by suiting measures to local circumstances. During the past 2 years, the agricultural departments at each level and the scientific research units in agriculture in Shaanxi Province have done a lot of work to improve rape varieties. They have cultivated and popularized "Zao feng No 2", 'Zao feng No 3", "Shaan you 110", "S7211" and such a series of superior varieties which suit this province's natural characteristics. Visible results have been achieved. The concerned agricultural, scientific and techncial departments of the province have also organized scientific and technical personnel of scientific research units in agriculture at the three levels of the province, prefecture and county to conduct experiments at certain localities, and they have separately developed techniques of cultivation of rape for different regions, such as the Hanzhong Basin, Gunzhong paddy fields and dry plateaus of the region north of the Wei River. Over 1,800 specialized personnel and over 100,000 farmer technicians were trained. They have popularized advanced techniques on a large scale, and they have more thoroughly changed the situation of rough cultivation and tehhnical backwardness in the cultivation and production of rape.

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BRIEFS

TOTAL GRAIN OUTPUT--Despite the rare historical flooding, the 1981 total grain output in Shaanxi Province still reached about 15 billion jin, close to the 1980 level. The gross value of agricultural output increased about 3 percent over the 1980 figure. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 14]

OIL-BEARING CROP OUTPUT--Shaanxi Province's total output of oil-bearing crops reached about 3.3 million dan, a 50 percent increase over 1980, realizing self-sufficiency in oil-bearing crop output. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 14]

MILK GOATS INCREASE--The 1981 milk goats in the province increased to 740,000 head. The powdered goat milk output reached 6,000 dun, a national first. [Excerpt] [Beijing BAN YUE TAN in Chinese No 3, 1982 p 14]

CSO: 4007/264

BRIEFS

COTTON OUTPUT--The 1981 total cotton output in Shandong Province reached more than 13 million dan, surpassing the combined total output of 1976-1979. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 9]

DIVERSIFIED ECONOMY--On the basis of 22 percent increase in 1979, the gross income from diversified economy in Shandong Province in 1980 registered another increase of 19 percent, reaching 12.5 billion yuan. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 9]

CSO: 4007/264

JINZHONG PREFECTURE POPULARIZES AGROTECHNIQUES TO DEVELOP PRODUCTION

Taiyuan SHANXI RIBAO in Chinese 18 Dec 81 p 1

[Article by Pan Yaodong [3382 2565 2639] and Liang Ruojie [2733 5387 3381]: "Popularize Techniques Among All Families, Rely on Science to Increase Yield, Increase Income and Become Rich, the Jinzhong Prefecture Popularizes the Application of Agricultural Science and Techniques With Visible Results"]

[Text] As the year 1982 is about to arrive, welcomed news is heard from the Jinzhong Prefecture in the popularization of the application of agricultural science and techniques with visible results: In 1981, the science committee of the administrative office selected and implemented 36 agricultural science techniques, and because they suited the natural conditions of the locality, and because concrete measures were well matched, most served a visible function in promoting production, increasing income and creating wealth. They have enabled scientific techniques to develop great power in agricultural production.

In recent years, 22 scientific research achievements in agriculture developed by the Jinzhong Prefecture received national and provincial awards. To enable these advanced techniques to be popularly utilized and to become practical productive forces, the prefecture committee and the administrative office established a "new techniques popularization leading group" in September of last year, and the committee also established a plan to popularize and apply new techniques aimed mainly at "less investment, quick results, large gain". These techniques mostly suit the locality's natural characteristics. The soil is infertile. Drought easily occurs. The frostless period is short. Spring is cold and the temperatures are low. The 69 brigades in the six cotton planting counties in the prefecture used thin sheets to cover over 1,140 mu of cotton fields, and each mu produced an increase of 59.3 jin over the cotton fields cultivated by ordinary methods. The science committee of Taigu County launched the method of "letting scientific techniques go ahead and go to the villages". Thus, commune members of 522 families planting watermelons also learned to use sheets to cover the ground and increased income by over 420,000 yuan. The 20,000 mu of millet in Jiexiu County increased their yield by over 30 percent because of the popular use of the "jinzhuang method of cultivating high yields of millet" despite the drought that occurred in spring and summer this year. Yuci and Heshun counties expanded the area of test planting of summer wheat. After harvest, the per mu yield of winter wheat averaged an increase of 135 percent. The "xia mai No 1" popularized over 268 mu in the hilly regions of Yuci County yielded nearly twice as much as the other varieties planted in similar soil.

While popularizing the application of new agricultural techniques, the scientifics, the scientific techniques department at each level in Jinzhong Prefecture also paid a lot of attention to sicentific guidance in diversification. Gaocun Brigade in Qi County used frozen semen to improve the yellow buffalo. In one year's time, it increased income by 21,900 yuan, a per capita average of 42.10 yuan. Bodi Brigade of Pingding County built fish ponds with a water surface area of over 200 mu and utilized surplus heat from the nearby power plant to cultivate fish scientifically. Now, it has propagated over 80,000 African crucian carp. In addition, the agricultural science deparments at the three levels of the prefecture, the county and the commune also popularized knowledge about the techniques of raising silkworms, deer, and martens scientifically in many ways among the broad number of commune members through training in special subjects, by teaching them in villages and by broadcasting lectures. They have opened new roads for the farmers to become rich quickly.

9296
CSO: 4007/187

BRIEFS

AGRICULTURAL GROSS VALUE--Even in encountering a disastrous flood situation, Sichuan Province was able to increase its 1981 gross value of agricultural output to a record of 3 percent over the 1980 figure. Grain production increased 600 million jin, rapeseed more than 260 million jin. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 12]

LIVESTOCK FIGURES--The number of hogs removed from inventory in 1981 in Sichuan Province is 32.5 million head and sold to the state 19 million head. At the end of 1981, the number remaining in inventory were 51.65 million head. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 12]

CSO: 4007/264

BRIEFS

ANIMAL GROWTH RATE--Despite severe snow disaster in Xizang Autonomous Region, 1981 total animal growth rate in Xizang reached about 15 percent. The output value of major animal husbandry products increased 13.8 percent over the 1980 figure. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 10]

TOTAL GRAIN OUTPUT--The 1981 total grain output in Xizang reached 950 million jin, the fourth highest-yielding year since Liberation. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 10]

PEASANT, HERDER AVERAGE INCOME--The 1981 average peasants' and herders' income per capita for the entire region was a historical record of 200 yuan (including income from family sideline enterprises), a net increase of more than 20 yuan over the 1980 figure. [Excerpt] [Beijing BAN YUE TAN in Chinese No 2, 1982 p 10]

CSO: 4007/264

ZHEJIANG

WIDER USE OF GRAINS OTHER THAN WHEAT, RICE URGED

Hangzhou ZHEJIANG RIBAO in Chinese 22 Dec 81 p 1

[Article: "Need for Use of Superior Varieties and Superior Methods in Developing Minor Edible Grains. Delegates and Experts Attending Provincial Minor Grains Evaluation Conference Suggest All Jurisdictions Give Serious Attention to Minor Grain Output"]

[Text] Great prospects exist for development of minor grains [grains other than wheat and rice] in Zhejiang Province, the crux lying in use of superior varieties and superior methods. This was the unanimous view of delegates and experts attending the Provincial Minor Grains Evaluation Conference convened by the Provincial Seed Company and recently held in Shangyu County.

Avenues are broad for Zhejiang Province's development of minor grains. It is possible to expand the growing of these grains to places such as seacoasts and yellow soil hills where major grain crops cannot be grown, and they can occupy a major position in open fields to play the role they should play in readjustment of the farming system. In regions in which output from a wheat -rice - rice system of farming is not high, the system may be changed to wheat - beans - rice, or wheat -rice-beans, or else a single rice crop system can be changed to a two crop system of beans and rice. In addition, minor grain crops may be intercropped or companion cropped for three dimensional farming. Otherwise odd corners of fields or small scraps of unused land may be used to grow them, sticking them in wherever possible. There are many varieties of grain crops that may be grown; they have a wide range of uses; labor costs are small; economic value is high; and they are a good method for combining nuture and use of soil as well as a good avenue for increasing output and earnings. Today less than half the area of the 1950's is devoted to the growing of minor grain crops. Everyone acknowledges that this state of affairs must be changed with all possible speed, and that cadres and commune members must come to understand the importance of developing minor grains if avenues are to be opened so that minor grains can get a foothold. Last year Wenzhou Prefecture companion cropped 70,000 mu of soybeans, 20,000 mu of mung beans, and more than 1,000 mu of seasame on its sweet potato lands alone for increased harvests of more than 7 million jin of soybeans, more than 1.2 million jin of mung beans, and more than 10,000 jin or sesame.

The experts agreed that it is necessary for the development of minor grain crops to direct attention both to numerous varieties and to high yields.

Today output of minor grains in Zhejiang Province is low, the main reason being a lack of superior varieties and good methods of growing them. The same old varieties and the same old techniques are used in most fields. The Lanqi County Institute of Agricultural Sciences used superior varieties and superior methods in combination to grow autumn soybeans, harvesting yields of 481 jin per mu, more than double the yield from the growing of soybeans generally. Everyone acknowledged that through experience in production all jurisdictions in Zhejiang Province have bred group of superior varieties of minor grain crops suited for promotion locally. In recent years quite a few superior varieties have been introduced from elsewhere. One such is superior soybean variety, Aijiaozao, which ripens early, produces high yields, has fine quality beans, tolerates fertilizer, tolerates cold, and tolerates delayed planting. Another is superior peanut variety, Yueyou 551, which produces consistently high yields, has a quite good flavor, and produces yields that range from 30 to 50 percent higher than local varieties. Wuyuekui variety of sunflowers is another superior variety. It has short stems and ripens early, has a large disc that produces high yields, tolerates fertilizer, poor soil, salinity and alkalinity, and is suited for growing over a wide area. Active promotion of these superior varieties can bring about a new situation in output of minor grains in Zhejiang Province.

9432
CSO: 4007/160

BRIEFS

FARM MACHINE INDUSTRY PLANS MET EARLY--The farm machinery industry in Zhejiang Province has overfullfilled quotas for the entire year 1 month ahead of schedule. This year farm machinery industry departments responsible organized a group of key enterprises for a thoroughgoing investigation in rural villages to find out peasant needs and to understand what new situations had arisen in joint use of farm machinery by households, rentals of farm machinery by communes and brigades, and individual purchases of farm machinery following the advent of specialized contracting and linking calculation of remuneration to output in agriculture. Overall requirements for farm machines are, first, that they be small, second, that they be good, and third, that they do not cost much money. Acting on the basis of these new requirements, each plant provided for the production of a group of small farm machines, increased output of hand tractors, tea processing machines, small power machines, threshing machines, and machines that can be pushed by hand. Once they reached rural markets, they became goods in great demand. Acting on the basis of export demand, each plant increased output of new varieties for export, the province;s farm machinery exports increasing from six or seven kinds to more than 20 kinds, and the volume of business increasing twofold over last year. [Text] [Hangzhou ZHEJIANG RIBAO in Chinese 21 Dec 81 p 2] 9432

CSO: 4007/160

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9717
CSO: 4011/28

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Beijing SENGONG KEJI TONGXUN [FOREST INDUSTRY SCIENCE AND TECHNOLOGY] in Chinese No 12, 15 Dec 81 inside front cover

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CSO: 4007/261

AUTHOR: PAN Juncheng [3382 0689 2087/0015]
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ORG: All of Zhenjiang Institute of Agricultural Machinery

TITLE: "Analyses of Paddy-field Soil Parameters of Southern Provinces and Districts"

SOURCE: Beijing NONGYE JIXIE [TRANSACTIONS OF THE CHINESE SOCIETY OF FARM MACHINERY] in Chinese No 4, 1981 pp 101-107

TEXT OF ENGLISH ABSTRACT: In this article, analyses of paddy-field soil parameters are made, including coefficient of adhesion, coefficient of cohesion, depth of soft soil, and shearing strength, measured in Jiangsu, Zhejiang, Fujian, Jiangxi, Guangdong, Guangxi, Yunnan, Hunan and Hubei.

9717
CSO: 4011/30

AUTHOR: WANG Wanhe [3769 8001 0735]

ORG: Yushu County Science Committee

TITLE: " New Method of Raising Pigs for Fast Weight Gain"

SOURCE: Changchun NONGCUN KEXUE SHIYAN [RURAL SCIENTIFIC EXPERIMENTS] in Chinese No 1, 1 Jan 82 p 5

ABSTRACT: ZHU Xiaowen [2612 2556 2429] a member of Huaijia Commune of Yushu County raised 2 sows in early 1981 and obtained 23 piglets. He sold 13 piglets and 1 sow in Apr; in May and Oct he again sold 15 pigs to the state. In the year, he earned an income from raising pigs a total of 3,468 yuan and still had 14 piglets in his sty. The secret of his success is summarily reported as follows: (1) Giving the pigs raw green feed instead of cooked feed he saves more than 14 yuan per pig in fuel and 30 percent of the labor and the raw feed is better for the pigs. (2) Instead of one kind of feed, he mixes green, coarse, and fine feed in a proper ratio to satisfy the nutritional needs of the pigs. (3) The dry feed is mixed with water to form a gluey paste which pigs are very fond of. (4) Due to the fact that the pasty feed is very digestible, he feeds the pigs 5 times instead of 3 times a day. (5) His piglets do not lose weight after being weaned. They are cared for very specially by giving no less than 0.5-1 jin a day of processed feed in the daily diet. By summer time, a large quantity of green feed is added until the pig grows to weigh 140-150 jin before adjusting the feed by adding more processed feed to fatten it for about 2 months. By then, the pig weighs more than 200 jin and is ready to be sold as a commercial hog.

AUTHOR: ZHOU Guangfu [0719 1684 6534]

ORG: None

TITLE: "Raise a Large Number of Small Donkeys"

SOURCE: Changchun NONGCUN KEXUE SHIYAN [RURAL SCIENTIFIC EXPERIMENTS] in Chinese No 1, 1 Jan 82 p 16

ABSTRACT: This paper discusses the virtues of a species of small Chinese donkeys, called Maolu. They are not very big but they can pull about 250 kg of weight and are capable of working the field, transporting the harvest, or pumping the water. They are very gentle and willing to perform hard work; they tolerate coarse feed and are disease resistant. They are skillful in maneuvering the small trails. Their meat has a high protein content and is easily digestible by men. Their hide is a raw material for a traditional Chinese drug and can also be made into a high grade leather. All these excellent characteristics also cause them to be good beasts of burden, particularly useful in the military. The cost of raising them is low. In Nongan County, for example, more than 17,000 heads were raised in one year. In Nei Monggol, there were 7373 heads of animals sold on the market and 5021 of these were donkeys of this species. The price of other animals is reported to be 10 percent higher this year, but that of the small donkey has risen 30 percent. The need for these donkeys is definitely related to the development of China's rural economy and their rise in price signals the improved condition of rural production.

6248
CSO: 4011/27

AUTHOR: ZHUANG Diquan [8369 6611 2164]
TANG Yonghai [3282 3057 3189]
HU Qingsheng [5170 1987 0581]

ORG: All of Bast Crop Research Institute, Chinese Academy of Agricultural Sciences

TITLE: "Preliminary Research on Effect of Inducing Male Sterility in Kenaf by Chemicals"

ABSTRACT: Changsha ZHONGGUO MAZUO [FIBER CROPS IN CHINA] in Chinese No 3, Jul 81 pp 21-26, 20, 9

ABSTRACT: Hybrid kenaf [ambary] F_1 demonstrates obvious heterosis but at present there is yet no effective seed preparation method. According to foreign reports, treatment with 0.01-0.05 percent Embutox can produce partial male sterility. In 1979-80, the authors conducted an experiment to test the effects of dichloropropanoic acid and dalapon. Effects of these 2 chemicals are compared with those of other chemicals, such as CK, FW-450, AW-0, KMS-1, MH, etc. Effects of the chemicals on the growth of the kenaf plants and the development of their reproductive organs are observed. The male sterility effect is found to be closely related to the density of the chemical used, and the amount, timing, and number of spraying. The effect is also easily influenced by environmental factors. Analysis of experimental data also indicates that the amount of chemical accumulated in the plant is directly related to the detasseling action. As the effective content of the chemi-

[continuation of ZHONGGUO MAZUO No 3, 1981 pp 21-26, 20, 9]

cal increases, the effect of male sterility is higher, and the fruiting rate of artificial pollination is also reduced, i.e. there is less number of seeds in each plant. Is this a problem of too much chemical content in the plant body to cause an effect on the pistil itself? Or is it an effect on the fertilization process? Further study is needed to answer these questions.

AUTHOR: NI Lu [0242 4389]

ORG: Songhuajiang Research Institute of Agricultural Sciences, Heilongjiang Provincial Academy of Agriculture

TITLE: "Proper Sowing Time Makes Higher Yield and Finer Quality of Flax Fiber"

SOURCE: Changsha ZHONGGUO MAZUO [FIBER CROPS IN CHINA] in Chinese No 3, Jul 81 pp 47-48

ABSTRACT: The growth and development period of flax [Linum usilatissimum] is short and it is a crop requiring a great deal of water. When there is no condition for irrigation, the effective measure for improving the yield and the quality of flax is to grasp the proper time for planting. A research on the proper sowing time for flax began in 1963 and in 1965 the sowing time was proposed to be moved from late Apr to early May, resulting in 33.9 percent yield increase in 1966. In 1978-79, a 2-year experiment again proved that the yield and quality of flax are the best when the sowing time is from late Apr to early May. This is mainly because when it is planted during that period of time, the flax can best utilize the favorable condition of nature during its growth and development period. When it is planted earlier, the fiber quality is good, but the drought may easily stunt the plant to produce a low yield. When it is planted too late, the high temperature and frequent rain are favorable for the growth of the stalk but not favorable for formation and accumulation of fiber to result in a low yield of poor quality fiber.

6248
CSO: 4011/21

AUTHOR: LING Leng [0407 1515]

ORG: None

TITLE: "Forests - A Green Shield Against Floods"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 1, 1982 pp 2-3

ABSTRACT: In the 2 months of Jul and Aug 81, tremendous rain storms fell onto the 195,000 m^2 of superior cropland, causing unprecedented floods in the 135 counties of the Sichuan Basin. Some say this is a natural calamity but generally speaking although changes of atmospheric circulation are the basic condition of rain storms the depreciation of forest coverage remains the direct cause of the overwhelming damage. This paper explains the fact that forests can store moisture, change the distribution ratio of rainfall, and regulate the speed of water flow; therefore, they control and weaken the power of floods. For example, in Cangqi County, the forest cover is more than 30 percent. After 241 mm of rain, the ground surface stream coefficient was 42.6 percent. In Nanchong and Wusheng Counties, there was only 111 mm of rain, but the stream coefficient was 68.1 percent because the forest cover was only 2-6 percent. This disastrous flood of Sichuan should serve as a lesson to remind the people the benefits of forests.

AUTHOR: CAO Guangcai [2580 1684 2088]

ORG: None

TITLE: "The Method of Controlling and Promoting According to the Leaf-age Indices of Wheat"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 1, 1982 pp 8-9

ABSTRACT: Many studies have been conducted and many papers written on the subject of obtaining high and stable yield of wheat, while reducing the cost, the labor, etc. but there was still no concrete standard to follow. The leaf-age technique provides a scientific method of management to standardize water and fertilizer applications of the wheat fields. A drawing is given to depict 3 leaf-ages signaling the time to apply fertilizer and water. Since 1980, the technique has been extended in Beijing, Hebei, Shanxi, Shandong, Tianjin, etc. in 1.15 million mu of wheat fields. In Xincheng County of Hebei, for example, for the 57,107 mu of wheat, after adoption of the technique, the average yield increase per mu has been 49.7 jin, at a cost reduction of .0215 yuan per jin. The total cost reduction was 56,810 yuan and the increased yield was valued at 422,776 yuan. The technique is described in some detail.

AUTHOR: LI Jingshu [2621 0079 3219]

ORG: None

TITLE: "Talking About Humus Fertilizer"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 1, 1982 p 17

ABSTRACT: In the past, Chinese farmers often used such black colored fertilizer as silt, lignite, peat moss, etc. All these are humus fertilizers containing humic acid. Now many humic acid containing materials are used to process with nitrogen, phosphorus, potassium, or trace elements to produce mixed fertilizer. If humic acid is mixed with ground phosphate rock, there is very little improvement of phosphorus utilization, only about 0.166 percent in the entire growth and development period of rice, but such humic acid phosphorus fertilizer is effective for rape and buckwheat. Humic acid can also improve the absorption of potassium fertilizer by crops and has a chelating action to produce chelates with some hard-to-dissolve trace elements to cause them to be easily absorbed by plants.

5248
CSO: 4011/26

Beetle Control

AUTHOR: SUN Dianqing [1327 3013 3237]
PAN Kun [3382 0981]

ORG: None

TITLE: "Soil Treatment With Phoxim for Controlling Northeast Large Black Chafers"

SOURCE: Harbin HEILONGJIANG LINYE [HEILONGJIANG FORESTRY] in Chinese No 2, 5 Feb 82 pp 10-12

ABSTRACT: Large black chafers [scarabaeid beetles] are not only the major pests of agriculture. They also inflict major damage to the production of saplings in the Northeast. In 1980, of the 70 mu of saplings of various pines cultivated by the Dongfeng Commune, these beetles destroyed more than 20 mu, at a loss of 5 million young trees worth nearly 50 thousand yuan. In 1981, the authors conducted an experiment in 6 groups of plots. In 4 groups, 0.5, 1, 2, and 3 jin/mu of phoxim (in 50 percent emulsion, a product of Tianjin Pesticide Plant) is mixed with water and evenly sprayed in trenches of the seedbed before adding soil to the trenches to restore the leveled surface. In the 5th group, 1.5 jin/mu of phoxim is used. The 6th group forms the control. Results of the experiment indicate that for controlling such underground pests as the chafer, 1-1.5 jin/mu of phoxim diluted in water and applied to the 3-5 cm topsoil is very effective. This soil treatment should be done 3 to 5 days before planting. The beetle-killing effect of phoxim lasts about 3 months and a few larvae will survive to pupate at about 20 cm below the level of the phoxim application; therefore, for effective control, it is best to apply 2 years consecutively.

6248
CSO: 4011/18

Botany

AUTHOR: HU Zhong [5170 1813]
LIANG Hanxing [2733 3352 5281]
PENG Liping [1756 7787 5493]

ORG: All of Kunming Institute of Botany, Chinese Academy of Sciences

TITLE: "Photosynthetic Characteristics of a Yellow-green Rice Mutant"

SOURCE: Kunming YUNNAN ZHIWU YANJIU [ACTA BOTANICA YUNNANICA] in Chinese No 4, Nov 81 pp 449-456

TEXT OF ENGLISH ABSTRACT: This paper concerns the photosynthetic characteristics of a yellow-green nucleus mutant of rice which was obtained by us in anther culture. The content of total chlorophyll, xanthophyll and β-carotene in the mutant leaves is about 31 percent, 40 percent and 75 percent of that in normal leaves respectively; the chl a/chl b ratio of the mutant is much higher than that of normal leaves. The analysis of SDS-solubilized extracts of the chloroplast lamellae shows that the major light-harvesting chl a/b protein complex of the mutant is extremely deficient, and its chl a/chl b ratio is more than 3. In the chloroplasts of mutant leaves, there are very few grana stacking, and more starch grains can be seen when leaves are exposed to sunlight. The rate of CO_2 assimilation of mutant leaves exposed to 20,000 lux of sunlight is 75 percent of that of normal leaves on the basis of leaf area, and is 185 percent based on chlorophyll. The chloroplasts of the mutant may also show a much higher rate of ferricyanide Hill reaction based on chlorophyll.

[Continuation of YUNNAN ZHIWU YANJIU No 4, Nov 81 pp 449-456]

The results show that the grana stacking of chloroplast is closely related to the quantity of the light-harvesting chl a/b protein, and is not essential for the photosynthesis process.

9717
CSO: 4011/45

AUTHOR: GUO Zhongchen [6753 0112 3819]

ORG: Institute of Botany, Chinese Academy of Sciences

TITLE: "The Preliminary Studies on Culture of Unfertilized Rice Ovary *In Vitro*"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 1, Jan 82 pp 33-38

TEXT OF ENGLISH ABSTRACT: The present paper reports the results of the culture of unfertilized ovaries of rice *in vitro*. The inducting medium was N_6 supplemented with 2 mg/l 2,4-D, 500 mg/l casien hydrolysate and sucrose was 4 percent. The differentiated medium was N_6 supplemented with 2 mg/l Kinetin, 500 mg/l casein hydrolysate and the concentration of sucrose was 3 percent. The four cultivars and two crossed combinations were used as the experimental materials. The experiments showed the differentiation of the callus which occurred among various cultivars. The induced frequency in the crossed combinations was higher than that in the cultivars. Now 12 green plants and 3 albino plantlets have been obtained. The chromosomes of 11 green plantlets have been examined. Among them, six plantlets were haploid ($n = 12$) and five plantlets were diploid. The embryoids were located in the micropylar end. Some of them possessed the suspensor, similar to zygote embryos. The callus was found to be from different origins. One of them originated from haploid tissue derived from the nucleus in the embryo sac. Another originated from the diploid tissue in the integument or ovary wall. The origin of the callus from the unfertilized ovary was discussed.

AUTHOR: LI Xijing [2621 6932 3193]
YUAN Xiaohua [5913 2556 5478]
WU Xiangyu [0702 4161 6877]

ORG: All of the Department of Biology, Beijing University

TITLE: "Comparative Studies of Some Kinetic Properties of Glyceraldehyde 3-Phosphate Dehydrogenase and Fructose-bisphosphatase in Chloroplasts from Wheat and Rice"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 1, Jan 82 pp 39-45

TEXT OF ENGLISH ABSTRACT: Enzymatic properties of the chloroplast GAP dehydrogenase and FBPase from the wheat or rice leaves of the main stems during the grain filling period have been investigated. According to the effect of the substrate or coenzymes concentration, it is shown that the GAP dehydrogenases in freshly ruptured wheat or rice chloroplast show higher activities than FBPase, especially the activity of the wheat chloroplast GAP dehydrogenase which is over 10 times greater than that of FBPase. However, the activities of the above two enzymes in the rice chloroplast show only a little difference, with the activity of the rice FBPase being higher than that of the wheat.

The maximum initial velocities (Vmax) of the two enzymes in the above two chloroplasts are determined and are apparently different from each other.

[Continuation of ZHIWU XUEBAO No 1, Jan 82 pp 39-45]

At about 0.2 mM NAD(P)H concentration the activity of GAP dehydrogenase in the rice chloroplast is saturated. But, with the same concentration, the wheat GAP dehydrogenase is still not saturated. It is noteworthy that the ratio of the activities of the two chloroplast GAP dehydrogenases for NADPH and NADH approaches equality as the coenzyme concentration is increased.

Possible physiological significance of the kinetic properties of the above two enzymes during the wheat and rice grain filling period is discussed.

9717
CSO: 4011/44

AUTHOR: None

ORG: Joint Survey and Report Network, National Brown Planthopper Research Cooperative Goup

TITLE: "Studies on the Overwintering Limit of Brown Planthopper in China"

SOURCE: Beijing KUNCHONG ZHISHI [ENTOMOLOGICAL KNOWLEDGE] in Chinese No 1, Jan 82 pp 1-5

ABSTRACT: As a part of the study on the migration principle of brown planthopper feeding on rice (Nilaparvata lugens Stål), the group have carried out several years of investigation and experimentation to answer such questions as whether the planthopper is capable of overwintering within the territory of China, what is the ecological condition of overwintering, what is the form of the overwintering insect, etc. Due to the fact that paddy rice is the only food of the brown planthopper and it is unable to withstand very low temperature, the work has been carried out mainly in Guangdong, Guangxi, Fujian, Hunan, Jiangxi, Yunnan, and Guizhou provinces. Analyses of data of 1975-79 appear to indicate that the overwintering limit is closely related to the mean temperature of the month of January; therefore, the northern limit fluctuates between 21° and 25°N.Lat. The survival rate and the temperature are in a linear relationship, being 0.40 (40 percent) if the mean temperature of January is 11°C.

AUTHOR: CHEN Zhenyao [7115 2182 5069]
WEN Guoneng [3306 0948 5174]

ORG: CHEN of Research Institute of Entomology, Zhongshan University; WEN of Sihui County Bureau of Agriculture, Guangdong Province

TITLE: "Preliminary Report on the Late Rice Seedings Infested by Stolia ventralis (Westwood)"

SOURCE: Beijing KUNCHONG ZHISHI [ENTOMOLOGICAL KNOWLEDGE] in Chinese No 1, Jan 82 pp 5-7

ABSTRACT: Black shieldbugs (Stollia ventralis) (Westwood) are common pests in China damaging not only rice but also gaoliang, corn, millet, beans, and cotton. In the last 2 years, it had become the major pest of late rice seedlings in Dasha Commune, of Sihui County. That commune had had the practice of applying large quantities of pesticides during the late stage of early rice and the seedling stage of late rice, which is the peak of propagation of the shieldbugs; therefore, this pest had not been very noticeable. Now that the comprehensive control policy has been launched and less pesticide is used, this pest grows into a gigantic population. After the early rice harvest, most adults move to nearby late rice seedbeds. Following a study of its morphology and life history, the paper recommends a mixture of malathion and DDT for its control. Protection of its natural enemies, including frogs, spiders, ants, etc. is also a meaningful measure of its control, of course.

6248
CSO: 4011/17

AUTHOR: None

ORG: 5HZ-3.2 Grain Drying Machine Joint Research Group

TITLE: "The 5HZ-3.2 Grain Drying Machine"

SOURCE: Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 1, 1982 p 9

ABSTRACT: Properly dried seeds are the key to high yield. In the past, seeds are dried in the sun, depending upon constant turning. The drying process takes a long time and considerable labor, while the seeds are not evenly dried and easily mix with foreign matter to reduce their quality. For this reason, the Chinese Academy of Agricultural Sciences, the Shanghai Municipal Institute of Agricultural Machinery, the Sichuan Provincial Institute of Agricultural Machinery, the Sichuan Yongchuan General Machinery Plant, and the Santai County Agricultural Machinery Repair Plant cooperated in the research and manufacture of the 5HZ-3.2 seed dryer. The new product was certified by the ministry in Nov 81. It is suitable for seed companies, communes, and brigades to dry rice or wheat seeds. It may also be used to dry commercial grain. The structure of the machine is described, including a brief drawing of the machine. The cost of electric power is about 0.50 yuan/ton. Compared with similar domestic products, its properties are judged to be advanced.

6248
CSO: 4011/29

AUTHOR: LI Shiye [2621 1395 8768]
WANG Jiayu [3769 1367 3768]
KONG Wangen [1313 8001 2704]

ORG: All of the Institute of Soil and Fertilizer, Zhejiang Academy of Agricultural Sciences

TITLE: "Studies on the Characteristics of Nitrogen Supply in Paddy Soils. II. Effect of Fertilization on the Soil Nitrogen Supply and Grain Yield of Double Cropping Rice"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 1, Feb 82 pp 13-21

TEXT OF ENGLISH ABSTRACT: Field trials and micro-plot experiments using ^{15}N-labeled ammonium sulfate were conducted on a silty clay paddy soil developed on alluvial deposits of the Hangzhou Bay.

The experiments with the same design for early rice and late rice were laid out separately in the same field for comparative investigation. The results obtained are summarized as follows:
(1) The A-value of the soil and the amount of soil N assimilated by the late rice were considerably higher than those of the early rice, which may be mainly due to the difference in temperature regime between the two growing seasons. The amount of N taken up by the late rice was 3.66 - 4.18 percent of the total N content in

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 13-21]

the plowed layer, and was only 2.69 - 3.21 percent for the early rice. Correspondingly, the grain yield of the late rice in the control plot was much higher than that of the early rice.
(2) Soil N was the predominant source of the total N accumulated in either early rice or late rice. In the treatments of organic manure and chemical fertilizer, the percentage of soil-derived N in the total assimilated N of the double-cropping rice ranged from 48.6 - 81.4 percent, while the fertilizer-N and manure-N were 14.3 - 40.3 percent and 11.1 - 19.6 percent respectively.
(3) The percentage of soil-derived N in the total N accumulation in different organs tended to decrease in the order of roots, shoots and panicles, and the reverse was true for the fertilizer-N.
(4) Under the same method of application of nitrogen fertilizer, there was no significant difference in N recovery from ^{15}N-labeled ammonium sulfate by early rice or late rice, their recovery percentages being 28.8 - 35.5 percent and 28.3 - 31.2 percent respectively. However, the efficiency of the fertilizer on increasing the grain yield of early rice was much lower than that of late rice. This may be due to the different soil N supplying capacity in different growing seasons. Around 65 percent of the assimilated fertilizer-N was distributed in panicles, which might be related to the higher efficiency of nitrogen fertilizer applied at the panicle formation stage.
(5) Under the same method and rate of application of pig manure, the N recovery by late rice was higher than that by early rice. The highest grain yield of early rice

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 13-21]

and late rice was obtained by the treatment of the application of pig manure in combination with ammonium sulfate, which may imply the consistency of nitrogen supplying status in the soil of this treatment with the demand of rice.

AUTHOR: DENG Shiqin [6772 2514 3830]
XU Mengxiong [1776 1125 3574]

ORG: Both of the Institute of Soil Science, Chinese Academy of Sciences, Nanjing

TITLE: "Studies on Soil Particles in China. I. Some Physical and Chemical Properties of Soil Particles in Different Size Fractions of the 'Whitish Horizon' in Bleached Paddy Soil of Tai Lake Basin"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 1, Feb 82 pp 22-33

TEXT OF ENGLISH ABSTRACT: The soil particles of the "whitish horizon" in bleached paddy soil were separated into seven fractions (1 - 0.25, 0.25 - 0.05, 0.05 - 0.01, 0.01 - 0.005, 0.005 - 0.002, 0.002 - 0.001 and < 0.001 mm). Chemical analysis showed that the sand fraction (1 - 0.05 mm) in which there are "iron-manganese sands" contained less SiO_2 and more Fe_2O_3 than the silt fraction (0.05 - 0.002 mm). The sand fraction was characterized by its very high magnetic susceptibility. Its hygroscopic coefficient was also higher than that of the silt fraction by 3.5 - 4.0 percent. These features of the soil are different from those of the upland soils. This implies that in addition to SiO_2, other minerals may also be present in the sand fraction.

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 22-33]

Experimental results confirmed that it was only the clay fraction (<0.002 mm) which could exhibit plasticity and swelling properties. The plastic index and swelling capacity of the fine clay (<0.001 mm) were higher than those of the coarse clay (0.002 - 0.001 mm) by 2-3 times. The compressive strength of the silt fraction was very low (0.014 - 0.147 Kg/cm^2), but its bulk density in water was greater (1.37 - 1.42 g/cm^3). Under waterlogged conditions, the silt fraction settled down as a compacted layer. The settling and compacting of the "whitish horizon" might be mainly affected by the content of coarse silt (0.05 - 0.01 mm) and the ratio between coarse silt and fine clay.

It is considered that the critical limits for a soil to exhibit settling and compacting properties are: coarse silt content $\geq$ 40 percent, ratio between coarse silt and fine clay content $\geq$ 2, and the organic matter content $\leq$ 2 percent.

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et al.

ORG: All of the Institute of Soil Science, Chinese Academy of Sciences, Nanjing

TITLE: "Formation and Reclamation of Tile-like Crust-solonetz"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 1, Feb 82 pp 34-42

TEXT OF ENGLISH ABSTRACT: The present paper deals with the formation and reclamation of tile-like crust-solonetz in the semi-arid region of China.

The main characteristics of tile-like solonetz are given as follows: 1. There are no plants except alkali-tolerant plants on this soil. 2. On the surface of the soil there are tile-like crusts of 1-2 cm in depth; and on the crust back there are spongy structures. 3. The total salt content of the soil is not so high in the whole profile, that of the surface soil is less than 0.5 percent, and that of the subsoil is 0.1 percent. Sodium carbonate and sodium bicarbonate are predominant in salt composition. The pH of the entire soil profile is above 9 and ESP is higher than 20 percent.

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 34-42]

Soil survey and the modeling test in the laboratory has proved that there are two different ways by which the crust-solonetz is formed. First, in the process of alternation of accumulation and desalination, the sodium ions enter the soil adsorptive complex in the salt-affected soil containing sodium salt. Second, the salt is alkalized with the accumulation of sodium-carbonate and bicarbonate in soil induced by the rising of the low mineralized ground water.

This soil should be improved with integrated measures. In the area where there are conditions of irrigation and drainage, agricultural measures, such as deep plowing combined with the application of a large amount of organic manure, may be adopted. However in the area where the soil is more highly alkalized, chemical measures, such as application of gypsum or phospho-gypsum, should be adopted in addition to the agricultural measures.

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TITLE: "Soil Colloid Research. VIII. The Mineralogical Composition of the Colloids of Five Important Soils in China."

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 1, Feb 82 pp 62-70

TEXT OF ENGLISH ABSTRACT: The mineralogical composition of the soil colloids separated from black soil, loessial soil, yellow brown earth, red earth and laterite have been quantitatively analyzed by the systematic method of Alexiades and Jackson. In order to have the determination of the mineralogical composition of soil colloid more suitable for the actual conditions of these soils, the analytical methods of kaolinite and illite have been modified. The content of kaolinite was determined by NH_4Cl retention measurement instead of selective dissolution analysis. For estimating the content of illite, 5 percent of the K_2O extracted by 1 N HNO_3 was regarded as a parameter. The content of mica was calculated by means of 10 percent of the amount of total K_2O subtracting the K_2O extracted by 1 N HNO_3.

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 62-70]

The composition of the clay minerals of the five soils varies greatly. The highest content of montmorillonite is found in black soil, and its decreases gradually from north to south. However, the content of kaolinite tends to increase gradually from north to south. Vermiculite and transitional minerals of 14 Å are found in the soils of subtropical China.

AUTHOR: GAO Ziqin [7559 1311 0530]
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TITLE: "Micromorphological Characteristics of Some Cultivated Soils in Northeastern China"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 1, Feb 82 pp 85-91

TEXT OF ENGLISH ABSTRACT: Micromorphological characteristics of black soils, planosols and soda-solonchaks of various levels of fertility were investigated by means of structure analysis, optical microscopy and scanning electron microscopy. The results obtained are summarized as follows:

1. With a large amount of humic substances, black soils are well aggregated and highly stable in structure. The content of microaggregates (> 0.05 mm) in black soils is about 30-70 percent, that in planosols is less than 30 percent, that in unimproved soda-solonchak is 20 percent, and that in ameliorated soda-solonchak is 46 percent. The water-stable aggregates (> 0.25 mm) are distributed with the same tendency of the microaggregates (> 0.05 mm) in the soils.

2. Under a microscope, the degree of aggregation and the size of soil microaggregates, as well as soil porosity, can be observed precisely. Black soils have

[Continuation of TURANG XUEBAO No 1, Feb 82 pp 85-91]

a spongy fabric. Soil particles are cemented by gel-like substances to form porous soil structure. Planosols show a loosely-bound agglomeratic fabric with lower porosity. Unimproved soda-solonchaks belong to a porphyropeptic fabric in which almost no aggregates can be found. The ameliorated soda-solonchaks have a plucto-amictic fabric in which microaggregates are formed by the gel-like substances and mineral grains.

3. The variation of the organo-mineral complexes in soils is also observed by a scanning electron microscope. In fertile black soils the organo-mineral complexes are agglutinated by the gel-like substances to form a loose and soft soil structure. In unimproved soda-solonchaks and planosols the particles are merely accumulated together without any evidence of cementation. In ameliorated soda-solonchaks some gel-like substances appear on the particle surface, which means organo-mineral complexes are formed.

9717
CSO: 4011/40

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TITLE: "Research on the Pathogenesis of Hog Hematuria in Hanzhong Prefecture"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 10, 20 Oct 81 pp 11-15

ABSTRACT: Since 1966, a disease of unknown origin with hematuria as the primary symptom has been occurring in pigs in some areas of Ningqiang, Lyuyang, Yangxian, and Mianxian counties of Shaanxi Province. The incidence is growing. The authors began to carry out a survey of this disease in 1975 to learn its distribution, its natural environment, the feeding and management condition, etc. In the process, leptospirosis and other infectious diseases were gradually excluded. Through a feeding experiment, it was discovered that the local people had the habit of feeding the pigs with a local plant called Xiaopaoye, which was subsequently identified to be Discocleidion rufescens (Franch.) Pax et Hoffm. This plant was experimentally fed to a pig and it developed hematuria with all signs and dissection changes identical to those pigs which developed the disease naturally. The disease is, therefore, proved to be a toxic reaction to a poisonous plant. Clinical symptoms, microbiological and serological reactions, treatment method and results, and toxicological analysis of the poisonous plant are reported.

6248
CSO: 4011/25

AUTHOR: WANG Renzhu [3769 0088 2691]
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ORG: WANG, DANG of Huangnanzhou Prefecture Center of Pastoral Science, Qinghai Province; ZHAO of Henan County Animal Husbandry Station, Huangnanzhou Prefecture

TITLE: "Research on Weakened Bovine Paratyphoid Vaccine"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 11, 20 Nov 81 pp 7-8

ABSTRACT: There have been extensive epidemics of bovine paratyphoid fever in the prefecture and the province causing death to large number of calves and some adult oxen as well. The pathogen is primarily Salmonella bovis morbificans . At present, the live vaccine with aluminum hydroxide added has produced obvious effects but the immune period is too short and the vaccine has to be injected. The authors cultured a strain, S7301, obtained from a diseased ox to produce the S7301-738 vaccine without adding other agents. Used in a mist, the vaccine has been found to be effective and safe for calves and it does not appear to have obvious adverse effects on the workers who handle the mist.

This paper was received for publication on 4 Sep 80.

AUTHOR: ZHOU Shilang [0719 0013 2597]
WANG Xuhua [3769 2485 5478]

ORG: Both of Wenjiang School of Agriculture, Sichuan Province

TITLE: "Listeria monocytogenes Found in Swine Cholera Victims: A Diagnostic Report"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 11, 20 Nov 81 pp 13-15

ABSTRACT: Swine cholera has been endemic for the experimental pig farm of the school. In 1978, more than 20 piglets died of it. In May 80, 15 newly weaned piglets came down with the disease and bacteriological examination of 3 of these produced Listeria monocytogenes. The major expression of listeriosis is septicemia which is also the major symptom of swine cholera. It is, therefore, clinically difficult to distinguish. Correct diagnosis is possible only through bacteriological examination. Massive doses of penicillin and streptomycin can be effective for listeriosis at the very early stage if it is diagnosed early and correctly.

6248
CSO: 4011/24

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ORG: CHAI, CHENG, GAO, CAI of Lanzhou Research Institute of Veterinary Medicine, Chinese Academy of Agricultural Sciences; CHAI, DING of Department of Biology, Beijing University

TITLE: "Preliminary Electromicroscopic Observation of Liver and Muscle of Piglets of White Muscle Disease"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 1, 20 Jan 82 p 2, inside front cover

ABSTRACT: White muscle disease occurs extensively among the piglets in China, especially in the Northeast. In 1979, the authors discovered a general phenomenon of low selenium level in pig livers of that region, only about 0.11 ± 0.026 ppm (dry weight.) In 1980, they conducted an epidemiological study of this disease in several farms of Dedu County, to observe the clinical symptoms of piglets, to take EKG's to carry out hematological analysis, and to determine the selenium content. Moreover, for the piglets of the disease, electromicroscopic observation of the liver and the skeletal muscles was performed. Liver cells are observed to be obviously turning into fat; myofibrillae appear to turn angular. Photo-illustrations of these and other findings are reproduced on the inside front cover of this issue.

AUTHOR: ZHANG Wentao [1728 2429 3447]

ORG: Lanzhou Research Institute of Veterinary Medicine, Chinese Academy of Agricultural Sciences

TITLE: "Development of Mycology in Chinese Veterinary Medicine and Its Mission in the Modernization of China's Animal Husbandry"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 1, 20 Jan 82 pp 36-41

ABSTRACT: Following a general discourse on mycology and the outstanding problem of definition of the term, mold, in China, this paper examines the following in separate sections: (1) Animal diseases caused by fungus poison; (2) Veterinary mycosis; (3) Medicinal fungi; (4) Production of fungal protein for feed, the value of its utilization, and the problem of toxicity. Responsibilities of veterinary mycological research in China are summarized in the following: (1) Diseases of fungus poison; (2) Mycosis; (3) Fungus feed; (4) Medicinal fungi.

AUTHOR: YANG Lyuduan [2799 1462 4551]
WEI Kezhou [0604 0344 0719]

ORG: Both of Guizhou College of Agriculture

TITLE: "Harmful Effects of Nitrate and Nitrite Accumulations in Green Feed on Animals and Their Control"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 1, 20 Jan 82 pp 42-47

ABSTRACT: The extensive and pervasive existence of nitrates and nitrites in plants, the air, the soil, and the drinking water and their danger to men and animals have gradually been brought to the attention of related departments. This paper explains the absorption of nitrates by crops and grass for the synthesis of vegetable protein while microbes in the stomach of animals reduce the nitrates into nitrites, which are antecedents to the carcinogenic nitrosamine. Applications of large quantities of nitrogen fertilizer and the use of hormone herbicides, unreasonable irrigation with industrial wastewater, excessively dense planting causing insufficient solar radiation on crops, etc. further aggravate the problem. Some data concerning the relationship between the nitrate content of spinach and beets and the quantity of fertilizer applied and light penetration, the NO_2^-, NO_3^- contents of several vegetables and forage grass are given, but not the origin of the information. Harmful effects of nitrates and nitrites on animals are explained in some detail. There is a table explaining the relationship between the nitrate content of feed and the

[continuation of SHOUYI KEJI ZAZHI No 1, 1982 pp 42-47]

hemoglobin and methemoglobin contents of the blood of dairy cows [from an unspecified source of USSR.] Aside from methemoglobinemia, the symptoms of acute poison by nitrites, the carcinogenic action of nitrosamines, and harmful effects of nitrites in the digestive tract on preventing the formation and absorption of vitamin A, D, and E are briefly discussed. The need for molybdenum fertilizer in many parts of China, careful storage of green feed to control its temperature and freshness, and the protection of the natural environment against pollution are recommended as essential for controlling the harmful effects of nitrates and nitrites. There is no mention of Chinese studies on the subject in the paper.

6248
CSO: 4011/19

AUTHOR: ZHANG Shimei [4545 1102 5019]
ZHAO Yongxiang [6392 3144 4382]

ORG: Both of Jiangxi Agricultural University

TITLE: "Faunal Analysis of the Agricultural Insects in Jiangxi Province"

SOURCE: Kunming DONGWUXUE YANJIU [ZOOLOGICAL RESEARCH] in Chinese No 1, Feb 82 pp 31-35

TEXT OF ENGLISH ABSTRACT: This paper deals with the faunal analysis of 1,100 species of agricultural insects, including the pests and their enemies. The present paper is divided into two parts: the first part introduces the types of fauna of the insects and the percentage of each type, and the second illustrates the names of the species whose south or north border of distribution is within Jiangxi and indicates their south or north distributional lines.

Among these insects, a total of 48.82 percent belongs to the faunal of the Oriental region, and 16.91 percent are of the palaearctic region. If all of the "Orientals" are summed up, the percentage will increase to 81.64 percent, and "palaearctics" will increase to 43.46 percent, so it is safe to say that Jiangxi belongs to the fauna of the Oriental region and is near the southern border of the Palaearctic region.

AUTHOR: WU Jiayan [0702 1367 3508]
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ORG: Both of the Institute of Zoology, Shanxi

TITLE: "A Report on the Mammals of Ankang Region, Shanxi Province"

SOURCE: Kunming DONGWUXUE YANJIU [ZOOLOGICAL RESEARCH] in Chinese No 1, Feb 82 pp 59-68

TEXT OF ENGLISH ABSTRACT: A faunal survey was conducted from April 1963 to February 1966 in the Ankang region of the southern part of Shanxi Province. Collections were made at the following localities: Ningshan, Shiquan, Hanyin, Ankang, Xunyang, Lan'gao, Pingli, Baihe, Ziyang and Zhenping. Altogether, 2989 specimens were collected, including 96 species and subspecies belonging to 26 families and 7 orders.

This region, in the authors' view, may be zoogeographically divided into six zones:
1. Subalpine coniferous forest zone of Qinling (altitude above 2500 m);
2. Mid-mountain mixed forest zone of Qinling (altitude 2500-1300 m);
3. Low mountain defoliation and broad leaf and even green broad leaf forest zone of Qinling (altitude 1500-800 m);
4. Cultivated field zone of Ankang Basin (altitude 800-500 m);

[Continuation of DONGWUXUE YANJIU No 1, Feb 82 pp 59-68]

5. Low mountain even green defoliation and broad leaf forest zone of Taibai Shan Mountain (altitude 2000-1300 m);
6. Subalpine coniferous forest zone of Taibai Shan Mountain (altitude above 2200 m).
For each of these zones, brief notes are given concerning its faunal characteristics, with due emphasis on representative species.

On the south slope of Qinling, 27 percent of the mammals are Palaearctic species, 44 percent are Oriental species. On the north slope of Taibai Shan Mountain, almost 15 percent of the mammals are Palaearctic species and 47 percent are Oriental species.

From the above analysis, the authors conclude that Qinling Mountain, along with Taibai Shan region, is apparently a transitional belt between the Palaearctic and Oriental realms. The oriental elements are increasing from north to south, while the palaearctic ones are decreasing gradually.

9717
CSO: 4011/47

AUTHOR: CHENG Yuanda [2052 3293 6671]

ORG: Institute of Animal Husbandry and Veterinary Science, Hunan

TITLE: "A Survey of Parasitic Nematodes in Domestic Animals and Poultry from the Lingling Area, Hunan Province, with Descriptions of Two New Species"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 1, Jan 82 pp 20-26

EXCERPTS FROM ENGLISH ABSTRACT: A survey of parasitic nematodes in domestic animals and poultry of Lingling area, Hunan Province, was made during June-July, 1979. After an examination of 154 livestock and poultry, 47 species belonging to 18 families and 30 genera and including two new species and three new records for China were found. The new species are described in this paper and type specimens are deposited in the Institute of Animal Husbandry and Veterinary Science, Hunan.

The new species are:
Elaeophora linglingense sp. nov.
Types: Holotype ♂, allotype ♀, paratypes 6 ♀♀ .
Host: Cattle
Location: Wall of aortic arch.
Locality: Lingling County, Hunan Province, China.

[Continuation of DONGWU FENLEI XUEBAO No 1, Jan 82 pp 20-26]

Thominx gallinae, sp. nov.
Types: Holotype ♂, allotype ♀, paratypes 2 ♂♂, 4 ♀♀.
Host: *Gallus gallus domesticus*.
Location: Caecum.
Locality: Jiangyong County, Hunan Province, China.

AUTHOR: YUN Lian [0765 5571]

ORG: Institute of Zoology, Chinese Academy of Sciences

TITLE: "A Survey of the Cestodes of Birds from Weishan Lake, Shandong Province, China"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 1, Jan 82 pp 27-31

EXCERPT FROM ENGLISH ABSTRACT: The material was collected from both wild birds and poultry in the region of Weishan Lake from November to December, 1975. Through an examination of 137 wild birds belonging to 15 species, 103 (75.1 percent) individuals were found to be infected with cestodes. Ten species of parasitic cestodes belonging to seven genera of the family Hymenolepididae have been identified and enumerated on in the Chinese text. In addition, an examination of 16 ducks and 9 fowls revealed the presence of 2 species of cestodes: *Fimbriaria fasciolaris* (Pallas, 1781), and one new species which is described. It is:
Retinometra chinensis, sp. nov.
Host: Domestic duck.
Location: Small intestine.
Locality: Weishan Lake, Shandong Province, China.

9717
CSO: 4011/46

END

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AGRICULTURE

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I. GENERAL INFORMATION

FIVE AUTONOMOUS REGIONS ACHIEVE BUMPER HARVESTS

Beijing ZHONGGUO NONGMIN BAO in Chinese 17 Jan 82 p 1

[Article by Zhang Ru [1728 0320]: "Implementing the Party's Farm Village Policy and National Minority Policy, Five Autonomous Regions Realized Bumper Harvests in Agriculture and Livestock Production Last Year"]

[Text] Combined report: Because the party's farm village policies and the national minority policies were further implemented and because science and technology were actively popularized, our nation's five national minority autonomous regions--Nei Monggol, Ningxia, Xinjinag, Xizang and Guangxi--overcame many natural disasters and realized bumper harvests in agriculture and livestock production in 1981.

Nei Monggol: Agriculture realized overall bumper harvests. The sowing area of food grains decreased by more than 630,000 mu from 1980, but the total yield increased by more than 2 billion jin, surpassing the highest level in history. Oil-bearing crops and sugar-yielding crops increased 16 percent and 18.8 percent respectively over 1980. Two years ago, the "production teams that relied on three commodities," which constituted one-third of the total number of production teams of the whole region, basically solved the problems of a shortage of food and clothing. The per capita average income of commune members in farm villages throughout the region is estimated at 215 to 220 yuan, an increase of more than 30 yuan over 1980.

Livestock production was seriously affected by drought in 1981, but the number of livestock still approached the number alive the previous year. The per capita income of the herdsmen of the whole region surpassed 300 yuan, an increase of more than 40 yuan over 1980.

Ningxia: In the more than 30 years since the founding of the nation, food grain production in Ningxia surpassed 2 billion jin in only 6 years. Four of these years were after the Third Plenum. During the past 2 years, it reached above 2.4 billion jin. Oil-bearing crops and sugar-yielding crops increased by a large amount, changing the long practice of importing edible oil and sugar by Ningxia. During the more than 30 years, there were 5 years in which the number of sheep throughout the region reached more than 3 million head. Three of those years were after the Third Plenum. In 1981, the number reached 3.27 million head. Because of the development of agricultural and livestock production and diversification, the people's life has been generally improved. The income of commune members in the Xihaigu region, which had been traditionally poor, also increased generally.

Xinjiang: The whole region's agricultural and livestock production realized bumper harvests for 3 consecutive years, and in 1981 it again realized bumper harvests. The area of planting of food grains decreased by 1.38 million mu, but the total yield still approached that of the previous year. Cotton and oil-bearing crops respectively increased 31 percent and 33 percent over the previous year. The yield of melons, fruits and hops also increased by a large amount. The yield of hops constituted 85 percent of the national production, and the amount exported constituted 95 percent of the national total.

The year-end number of livestock of the whole region increased by about 3 percent over 1980. Because of the development of production, the situation of the poor communes and poor brigades changed. For example, one of the eight poor countries of the whole region is Sule County. The per capita distribution of income of the farm village population of the whole county increased from 54 yuan the previous year to over 80 yuan.

Xizang: In 1981, this region suffered severe drought. Livestock production suffered from damage by snow over large areas. The severity of the disaster in some localities was the greatest in several dozen years. But because of the directives issued by the Chinese Communist Party Central Committee for work in Xizang in 1980, the policy was relaxed and the enthusiasm of the farming and livestock population was mobilized. Agricultural and livestock production of the whole region still realized improved harvests. Diversification developed quickly. It is estimated that the total income and per-capita income throughout the region will both greatly surpass those of the previous year. In the past, the Shannan area asked the state to appropriate 4 million jin of food grains each year, and there were people who had to go elsewhere to make a living. In 1981, this area only had to ask the state to appropriate 400,000 jin of food grains.

Guangxi: Guangxi suffered serious disasters in 1981. The area of sowing of food grain crops decreased by 6 million mu, but the total yield of food grains may still approach the highest level in history. All economic crops realized overall increased yields. The yield of cane sugar is estimated to have increased by 20 percent over the previous year. According to the policy and guidelines to develop and support production in mountain and border regions, the whole region established a group of commercial food grains and economic crop bases as a foundation for further development in the future.

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ECONOMIC PLANNING IN AGRICULTURAL PRODUCTION STRESSED

Beijing ZHONGGUO NONGMIN BAO in Chinese 7 Jan 82 p 1

[Article by commentator: "Agricultural Production Must Also Implement Economic Planning"]

[Excerpt] The agricultural economy is an important part of the national economy. The development of the agricultural economy cannot be separated from the overall construction of socialist modernization. Because agricultural development is not isolated, it cannot be separated from the development of industry, communications, science, education and health. Because overall development of agriculture is the foundation for a steady development of the national economy, it must serve the whole body of economic construction. Agriculture must never be separated from the guidance of national planning.

Today, our party has corrected the past mistaken "leftist" tendencies of overly tight control and overcentralization. The situation is becoming better as the broad numbers of farm villages have implemented many forms of production responsibility system centered around linking production to remuneration and contracting work. Does this allow agricultural production to rely entirely on market regulation and to develop freely without national planning? Certainly not. The "Resolution on Certain Questions in the History of Our Party Since the Founding of the Nation" passed by the Sixth Plenum of the Chinese Communist Party pointed out: "We must implement economic planning on the foundation of the public ownership system and at the same time develop the auxiliary function of market regulation." Regardless of what form of production responsibility system is implemented, the agricultural economy still requires economic planning; economic planning must still be the main effort and market regulation must be secondary. Some people think that after implementation of the production responsibility system, the agricultural economy does not need to emphasize economic planning. This is very wrong. Some people even regard the production responsibility system as "dividing the farmland for individuals to work on", and consider that the farmers' production can be completely regulated by the market. This is an even more serious mistake. During the previous period, some new situations emerged in some localities after bumper harvests in agriculture were realized. For example, agricultural sideline products and local specialty products accumulated. Sales were stagnant. Farmers had difficulty selling edible oil, cotton, codonopsis pilosula, prickly ash, and even surplus food grains. But in other localities, because the arrangement of production was not appropriate, production of live hogs dropped; in some cities, there were shortages in the supply of vegetables and procurement of third category agricultural and sideline products dropped. This shows that the overall development of agriculture cannot be separated from the entire plan of building the nation. If the agricultural economy is separated from the national economic construction plan, the proportional development of the national economy will not only become imbalanced, but there will be shortages in the market. Also, blind development in production will cause accumulation of staple agricultural and sideline products, thus hindering the further development of agriculture, slowing the pace of development of agriculture, and bringing economic loss to farmers.

The principles and policies established since the Third Plenum must be firmly implemented. The production responsibility system must be continued. The principle of "never relaxing food grain production, actively developing diversification" is unshakable, because only in this way can the nation and the people become rich. When implementing these principles and policies, we must first think of the nation, and they must be carried out under the guidance of national plans. In recent years, each locality has expanded the production of such economic crops as cotton, oil-bearing crops, flue-cured tobacco, prickly ash and codonopsis pilosula during readjustment of the distribution of production. In developing the light and textile industries, edible oil became basically self-sufficient and the efforts served a good function. But now the situation has changed. Regions of centralized production of some economic crops must pay attention to the new arrangement of national plans. Development of commercial products for which the domestic and foreign markets are already saturated should be discontinued. Even though the market needs some agricultural and sideline products and even though the production of commune member family sidelines is scattered, everyone must consider the national plans, and such production cannot be blindly developed. In general, the departments in charge of agriculture in each locality and the broad numbers of cadres in farm villages must view the whole situation, give careful guidance, and keep in mind the national benefit at all times. The masses of commune members must also consider the whole situation, recognize the whole situation, and actively complete the various national tasks so that our nation's agriculture can realize overall development under the prerequisite of insuring the needs of the nation.

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DEVELOPMENT OF QUALIFIED AGRICULTURAL PERSONNEL URGED

Beijing ZHONGGUO NONGMIN BAO in Chinese 10 Jan 82 p 1

[Article by staff commentator: "Pay Attention To Developing Qualified People in Farm Villages"]

[Text] "When there are qualified people, business will be prosperous." Since the Third Plenum of the party, our nation's agriculture has been able to develop relatively quickly on an overall basis because it has relied on policy and on science. But regardless of whether it relied on policy or on science, the key is still people. The many people with a high socialist awareness, with a rich knowledge of science and practical experience, provide forceful assurance of the development of agriculture and other business in our nation.

This year, the agricultural front should do its work better and make greater contributions to the nation. To enable our nation's agricultural development to develop more rapidly, to enable agriculture, forestry, livestock production, sideline production and fishery to develop on an overall basis, more intelligent, technically skilled and talented people are needed, more self-taught scholars, self-taught experts and various types of skilled professionals are needed. Discovering these talented people and utilizing their wisdom are an important task to hasten the development of agriculture at present and a major factor for vigorously developing agriculture.

Our nation's farm villages not only have rich natural resources, but the potential of skilled people and talent is also great. Among them there are: traditional technical talent; new generations of self-taught talent; intellectual youths who have come from the farm villages and returned to the farm villages; old workers who have retired from the factories, mines and enterprises in the cities and towns and returned to the farm village; demobilized personnel who have changed their career to become technicians; temporary workers and contract workers who have participated in national construction projects; civilian technicians who move from one locality to another, etc. In general, there are many kinds of talented people whose skills have not been utilized well for various reasons in the past.

In selecting and using farm village talent, there are still a lot of hindrances. Many people still do not pay enough attention ideologically to this problem. Some people are influenced by the traditional concept of small-scale production. They do not see the urgent need for various types of specialized technical personnel in the overall development of agriculture. Some people mistakenly criticize and limit some traditional technologies as things of feudalism and capitalism; for example, regarding horticulturists and such specialized labor as not engaging in proper work. There are also people who know that a person has knowledge, talent and skill and is willing to contribute to the building of the four modernizations, but for certain so-called political reasons, they are afraid of making mistakes and do not dare hire him. In implementing policy there are also problems. Some people are afraid some commune members will make headway economically and will widen the gap between rich and poor, and they are worried about "polarized division", so they impose many limitations on contracting work to professionals, contracting technical work, giving rewards to surplus production, etc. Some demand perfection. Some insist on seniority and discriminate against the younger generation, and some utilize their authority to place personal friends or relatives; thus people with specific talent, skills and knowledge cannot be correctly employed.

Today, the time has come when these problems must be solved. Party organizations and cadres at each level in farm villages must include in their daily agenda the problem of discovering and employing various types of specialized talent. They should care about and pay attention to such talent so that such people can contribute all their wisdom and talent to building a rich and prosperous new farm village.

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CONFERENCE DISCUSSES DEVELOPMENT OF AQUATIC PRODUCTS

Beijing GUANGMING RIBAO in Chinese 13 Jan 82 p 2

[Report by reporter Lu Liang [4151 5328]: "Develop Sea Water Culture, Exert Efforts To Increase Aquatic Products; a Group of Experts Enthusiastically Discussed the Direction of Development of Sea Water Cultivation of Fish"]

[Text] A group of experts and professors attending the national conference held recently in Hangzhou to discuss the direction and key points of developing sea water fish cultivation pointed out that our nation's ocean fishery production will not increase very much in the near term because of overly intensive fishing activities. In this situation, developing sea water fish cultivation has become the main way to increase marine production.

Experts believe that our nation's sea water fish cultivation has a great potential. The whole nation still has over 90 percent of shallow seas and beaches which can be used for cultiviation. There are nearly 100 different varieties of marine life which can be cultivated along our nation's coastal regions. In selecting the varieties for cultivation, we should suit measures to local circumstances, develop many varieties, and not exercise arbitrary uniformity. Within the national territory, we should first strengthen and redevelop high-yielding staple varieties with a large economic value, such as kelp, laver, oysters, razor clams, mussels, and prawns. Regarding other varieties such as clams and blood clams, which also have a definite yield, there is a traditional custom of raising such marine products and rich experience. If each locality emphasizes strengthening and developing such efforts, they will serve importantly to solve the needs of the people and the masses for marine products.

At the same time, in specific regions, the study of some local varieties such as mullet, barracuda, zhe mu yu, luo fei yu, clams, pearl shells, abalone, scallops, gracilaria confervoides, agar, and ulopteryx pinnatifida should be strengthened and their cultivation should be actively supported and developed. In this way, the marine products which can be supplied to the market will gradually increase.

Experts have pointed out that the propagation of marine resources must also be emphasized. On the one hand, we must establish protective zones and protective seasons, actively and effectively protect and propagate presently available fish, shrimps and shellfish and such important resources, and prohibit indiscriminate catching and fishing. On the other hand, we must select some herbivorous and omnivorous fish and shellfish for artificial incubation and later release them into ocean regions suitable for their growth so that they can grow naturally in the ocean for catching later. At present, the ocean region for propagation should begin in Bohai to gradually establish an ideal ecological system for comprehensive development of mainly prawns along with fish, shrimps, shellfish and algae.

The conference was sponsored by the special committee on sea water cultivation of the China Aquatic Products Society.

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AGRICULTURAL, SIDELINE PROCUREMENT PLANS FOR 1981 OVERFULFILLED

Beijing ZHONGGUO CAI MAO BAO in Chinese 14 Jan 82 p 1

[Article: "Last Year, Procurement Plans for Agricultural and Sideline Products Were Completed With Surplus; the Total Value Reached More Than 23.5 Billion Yuan, an Increase of 7 Percent Over the Previous Year; the Amount of Cotton, Tobacco, Bast Fibers, Tea and Raw Lacquer All Increased Notably Over the Previous Year"]

[Text] It has been learned from the National General Supply and Marketing Cooperative that in 1981, the nation's procurement plans for agricultural and sideline products were completed with surplus. As of 31 December last year, a total of 23.54 billion yuan worth of goods was procured, completing the whole year's procurement plans with a surplus of 7 percent and registering an increase of 7 percent over the total amount procured in 1980.

The amount of some major staple agricultural and sideline products procured increased in varying degrees. Over 52.43 million dan of cotton were procured, an increase of 8.4 percent over the previous year. Over 23.19 million dan of flue-cured tobacco were procured, an increase of 88 percent over the previous year. Over 10 million dan of round pot jute and bluish dogbane were procured, an increase of 13 percent over the previous year. Over 5.4 million dan of tea were procured, an increase of 8.2 percent over the previous year. More than 300 million jin of wool were procured, an increase of 3.1 percent over the previous year. Over 16 million sheepskins were procured, an increase of 26.2 percent over the previous year. More than 330,000 dan of palm were procured, an increase of 5.6 percent over the previous year. Some 54,000 dan of lacquer was procured, an increase of 12.5 percent over the previous year. Because market management in some regions did a poor job of handling shortages of some agricultural and sideline products, many purchasers rushed to buy up the inventories, and the procurement plans were not completed well. For example, only some 3.38 million cowhides were procured during the whole year, a drop of 19.1 percent from the previous year. The amount of procurement of some third category indigenous and sideline products also decreased on a large scale.

The regional statistics showed that 22 provinces, cities and autonomous regions, including Guizhou, Yunnan, Xinjiang, Liaoning. Jilin, Kiangsu, and Shandong, completed the annual procurement plans with surplus. Among them, 15 provinces, cities and autonomous regions registered increases of varying degrees over the actual amounts procured during the previous year. There were also some provinces, cities and autonomous regions, such as Shaanxi and Gansu, which suffered from severe natural disasters and could not complete the procurement plans, and the amounts procured were less than the actual amounts procured the year before last.

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TEST PLANTING OF NEW PADDY RICE VARIETIES REPORTED

Shuang Gui No 1

Guangzhou NANFANG RIBAO in Chinese 20 Nov 81 p 2

[Article by Chen Sisi [7115 2448 2448] of the Guangdong Science and Technology News Agency: "New Superior Variety of Paddy Rice 'Shuang Gui No 1' Which Is Better Than 'Gui Chao No 2'"]

[Text] The "shuang gui No 1" paddy rice variety was originally designated "shuang gui 210". It was a hybrid produced in 1981 from "gui chao No 2" and the dense and fast-growing, late-maturing, late-crop "gui yang ai C17" as the female. It was a new variety of paddy rice successfully bred in 1979 by screening and selecting from the colony of combinations. For 2 years it was test planted at many test localities and in large areas in Guangdong and Guangxi. Such tests showed that "shuang gui No 1" is short stemmed, tolerant to fertilizers, high-yielding, resists lodging, has a relatively strong resistance to bacterial blight of rice and blast of rice, and the quality of its rice is good. Its disease-resistance, resistance to lodging and properties of producing bumper harvests and stable yields are all better than those of "gui chao No 2". Under superior conditions of cultivation and management, its per-mu yield can reach over 1,000 jin.

"Shuang gui No 1" has such species characteristics as strong sensitivity to temperature and weak sensitivity to light. It can be used both for the early and the late crop. Planted as the early crop, its full growth period is about 140 days, maturing 5 days later than "qui chao No 2". When it is sown earlier, its growth period is prolonged, and when it is sown late, its growth period is correspondingly shortened. As the late crop, it manifests early maturation with a full growth period of about 125 days. Sown at the beginning of July and transplanted during the last 10 days of that month, it can achieve full heading from the end of September to the beginning of October, favorable for safely avoiding cold dew winds.

Three New Varieties

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 12, 17 Dec 81 p 7

[Article: ["Introduction to Paddy Rice Varieties"]

[Text] Guang Wen No 5 and Guang Wen No 10 (intermediate xian)

These two varieties were successfully bred by selective breeding and crossing guang xuan No 3 (Guangxi short stemmed variety) with wen lu No 1 (our province's local tall-stemmed variety) at our academy's Paddy Rice Institute from 1970 to 1975. From 1975 to 1977, they participated in the joint regional experiments of superior varieties of intermediate xian rice of the whole province, and their yields placed first and second at most test localities. In 1976, they began to be test planted at various localities in the province and since their popularization, practice has shown that because these two varieties have traits of the regional varieties of our province, they can better adapt to frequent climatic changes of cold and hot weather. They produce notably increased yields in rice regions at 900 to 1,300 meters above sealevel, whether in one-crop fields, two-crop fields of rice and wheat, or two-crop fields of rice and rape. The per-mu yield in large areas is 800 to 900 jin, with highs reaching above 1,000 jin. In 1978, the Xiazai production team of Huayan Commune in Anshun County planted guang wen No 10 after harvesting 5.89 mu of wheat. The average per-mu yield was 1,235.4 jin. These two varieties are being popularized over large areas in central Guizhou in the counties of Zunyi, Xifeng, Jinsha, Yinxi, Puding, Qingzheng, Xiuwen and Zhijin. In 1980, a total of 200,000 mu was planted.

Characteristics: Both are intermediate in height. The plant height is ordinarily 85 centimeters. When the temperature is high and fertility is sufficient, their height can reach about 95 centimeters. The apicule of the two varieties is colorless and awnless. In the central regions of our province, the full growth period is generally 150 to 160 days for guang wen No 5; guang wen No 10 matures 3 to 4 days earlier. Guang wen No 5 is a large panicle variety. The number of full grains per panicle is generally over 100 grains. The leaves are broad and large. The color is light. The stem is thick, and the tillering strength is relatively weak. The color of the glume is yellow and shiny. The color of the rice grain is pure white. The thousand-grain weight is about 26 grams. Guang wen No 10 is a variety with many panicles. The number of full grains per panicle is 80 to 85 grains. The leaves are narnow and stiff and their color is dark green. The stem is relatively thin. The plant's tillering strength is strong. The color of the empty glume is dark yellow with occasional light black spots. The color of the rice grain is white and slightly dark. The thousand-grain weight is about 25 grams. Its resistance to panicle neck blast of rice disease is relatively poor.

Key points in cultivation: (1) Guang wen No 5 is relatively less tolerant to fertilizers. To avoid overprosperous growth, it is not suitable for planting in highly fertile fields. When planted in such fields, the leaf surface area will become overly large, the canopy will be closed, and the number of empty husks will increase, unfavorable to producing bumper harvests. Guang wen No 10 has narrow and stiff leaves, so cultivating it in fertile fields is favorable for it to develop its potential of producing many panicles and high yields. In the winter fields constantly soaked and infertile fields of yellow mud, additional phosphorous fertilizers should be added to the base manure. (2) The density of seedlings for both should be 6 x 5 cun. In fields with sufficient fertility and when the seedlings are transplanted early, the seedlings can be planted in a density of 7 x 5 cun, with 8 to 9 leaves per hole. The height of the seedlings suitable for transplanting is about 7 cun. Old seedlings that have been overaged should not be transplanted in order to avoid affecting tillering in the large fields. Guang wen No 10 planted in regions affected seriously by blast of rice should be fertilized to stimulate stable and healthy growth. Overapplication of nitrogen fertilizers during the latter period of growth should be avoided.

The price of each jin of seeds is 0.14 yuan, or 0.7 jin of food grains in ration ticket. The amount of seeds supplied is not limited. Packaging and mailing costs are charged according to actual cost.

Lu Beifan [4151 1014 0416] of the Guizhou Provincial Agricultural Science Academy

Yin Yu 272 (intermediate xian)

Intermediate xian rice variety yin yu 272 is a variety of many panicles successfully bred from the natural hybrid plant of zhen zhu ai in 1973 at our institute. In 1977, it participated in regional tests in the province. In 1978 it participated in the regional tests of the southern rice regions. The per-mu yields surpassed 1,000 jin, ranking among first place. It produced 10 to 15 percent more in yield than zhen zhu ai. Over the past several years, the results of various regional experiments, test planting and large area popularization in Guizhou Province showed that the per-mu yield was generally 800 to 900 jin, with highs reaching over 1,000 jin. The area of planting in 1980 was about 20,000 mu. At present, it is mainly being popularized in the northeastern regions of Guizhou.

Characteristics: The full growth period is about 135 days. The plant is about 100 centimeters tall. The plant type is appropriately clustered and loose. The leaves are narrow, long and uplifted. The average width between the boot leaf and the first leaf below it is slightly less than that of zhen zhu ai. The leaf at the central position is slightly longer. The length of the panicle is intermediate. The number of full grains per panicle is 80 to 90 grains. The fruiting percentage is higher than that of zhen zhu ai. The color of the grain is yellow. The apicule is colorless and has an occasional short awn. The quality of rice is intermediate. The percentage of yield of rice is 75 percent. The thousand-grain weight is low, 24.5 to 25.5 grams. Its tolerance to aridity is relatively strong, but its stems are soft and lodge easily. The panicle is small and has few grains. The grains are sparse.

Key points in cultivation: It is suitable for cultivation in fields of medium and high fertility. Its seedling age is about 30 days. Its planting density is 6 x 5 cun and 7 x 5 cun in fertile fields, with 6 to 8 leaves per hold.

The price of seeds is the same as that for guang wen No 5.

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REVERSAL OF DECLINE IN PIG PRODUCTION EMPHASIZED

Beijing ZHONGGUO NONGMIN BAO in Chinese 3 Jan 82 p 1

[Article: "Production of Live Hogs Cannot Be Relaxed"]

[Text] According to reports by concerned departments, at the end of 1981, the number of hogs in pens and the number of hogs marketed have both decreased. Each locality should pay due attention to this and not disregard it.

There are many reasons for the decrease in live hog production. The main reasons are that the leadership did not pay sufficient attention to the new problems and the new situation that have emerged along with the good situation in the farm villages, and they did not study and solve problems related to some of the policies to encourage the masses to raise hogs, market management, and disease prevention and vaccinations. Now, when the problems are beginning to be exposed, we should be decisive, implement countermeasures in time, and conscientiously solve the problems.

Some localities have already taken concrete measures to handle the drop in production of live hogs; for example, implementing assigned procurement and contracting production of food grains, oil-bearing crops, livestock and eggs to families; assuring the supply of feed for families raising hogs; zoning feed plots; subsidizing feed grains; and rewarding commune members who have completed the tasks of assigned procurement of live hogs and selling more hogs, giving rewards of industrial products that are selling well, etc. The situation in each locality is different and measures should be suited to local circumstances; corresponding measures should be taken to conscientiously implement policies, encourage commune members to raise more and sell more, and to solve actual problems, including the production of feed, disease prevention, improving varieties, and establishing production bases for commercial hogs.

In general, developing hog raising is an important matter that affects improvement of the people's life, stabilizing the markets in the cities and villages and stabilizing commodity prices; it is an important measure that helps to develop diversification, improve the agricultural structure, promote industrial and agricultural production, and increase the income of the masses. Each locality must investigate and study, summarize experience, concretely carry out this work and rapidly change the decline in the production of live hogs.

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CSO: 4007/184

COMMUNE, BRIGADE ENTERPRISE TOTAL 1981 INCOME REPORTED

Guangzhou NANFANG RIBAO in Chinese 6 Jan 82 p 1

[Article: "Our Province's Commune and Brigade Enterprises Continue To Progress in Readjustment; Last Year Total Income Reached Over 4.9 Billion Yuan, an Increase of Nearly 20 Percent"]

[Text] In 1981, our province's commune and brigade enterprises again realized new progress in readjustment. According to forecasts by each locality, the total income of the commune and brigade enterprises throughout the province may reach over 4.96 billion yuan, an increase of more than 800 million yuan over the previous year, or an increase of 19 percent. On the basis of preliminary estimates, the counties and cities with a total income of over 100 million yuan are Shunde, Nanhai, Dongwan, Zhongshan, Fanyu, Xinhui, Chaoyang, Chaoan, Xieyang, Huaxian, Taishan, Kaiping County and the suburbs of Guangzhou, and Foshan city, an increase from last year's 12 counties and cities to 14 counties and cities.

Our province's commune and brigade enterprises continued to progress in readjustment, as characterized by the following:

1. The commune and brigade enterprises were further readjusted. Their distribution gradually became more rational. The products were more suited to the market. Products which were urgently needed by the people and masses in production and living, such as building materials, household electrical appliances, clothing, shoes and hats, furniture and small hardware and small plastic commercial products all increased greatly. The production of medium and small farm tools also changed for the better.

2. Joint enterprises and production brigade enterprises continued to develop.

3. A new way to open up the channels of supply and marketing was created with the establishment of various types of specialized companies, implementation of specialized management, and integration of production, supply and marketing so that production by commune and brigade enterprises gradually developed toward specialization. In addition, foreign trade of commune and brigade enterprises also underwent new development. In 1981, the production value of export products by commune industries in Guangzhou city increased by more than 50 percent over the same period of the previous year.

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DONGFANG COUNTY ACHIEVES BUMPER HARVEST IN 1981

Guangzhou NANFANG RIBAO in Chinese 1 Jan 82 p 1

[Article: "Dongfang Shines With a Brighter Glow; Last Year Dongfang County Realized an Overall Bumper Harvest of Food Grains, Oil-Bearing Crops and Sugarcane, and Income of Commune Members Increased"]

[Text] After Dongfang County implemented the production responsibility system of contracting work to families on a popular basis, it realized an overall bumper harvest in agricultural production in 1981. The highest records in history were created in food grain production, production of oil-bearing crops, sugarcane production, watermelon seed production and livestock production. The income of commune members increased on a large scale. Dongfang County, which was a poor county for a long time, is now shining with even brighter splendor.

According to statistics, in 1981 the whole county's total production of food grains reached 102 million jin, an increase of 32 percent over 1980. In 1980, the whole county consumed 15.7 million jin of returned food grains. Up to the end of December 1981, the whole county consumed only 340,000 jin of returned food grains, while the amount of food grains submitted and sold to the state by farmers reached 12.36 million jin.

Diversification in this county also developed on a relatively large scale. In 1981, the total yield of peanuts in the whole county reached 4.45 million jin, an increase of 42 percent over the previous year. The more than 26,000 mu of sugarcane produced a total yield of 40,000 tons, an increase of more than fourfold over the previous year. Watermelon seeds, the traditional crop, increased 43 percent. The number of cattle on ranches and hogs in pens increased by more than 10 percent over the previous year. Cattle increased by 7,320 head, an increase of 14.5 percent. The 3,900 mu of rubber already planted are growing well. In 1981, the per capita average income increased from 37 yuan the previous year to 86 yuan, an increase of more than onefold. Annual average rations of food grains for commune members increased 120 jin over the previous year. Up to the end of October, savings of commune members in farm villages throughout the county reached 2.275 million yuan, an increase of 813,000 yuan over the same period the previous year.

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BRIEFS

EDIBLE OIL PROCUREMENT--This year, our province's peanuts realized a relatively large-scale increase in yield. Procurement of edible oil for the state also notably increased over that of the same period last year. According to statistics, up to 15 December, the whole province procured a total of over 106 million jin of edible oil, storing 5.4 million jin more in warehouses than in the same period last year and completing the annual procurement plan with a 30-percent surplus. This year, because each locality readjusted the distribution of production and expanded the planting area of peanuts, and because the national procurement policy was stable, the enthusiasm of the farmers for planting peanuts was greatly mobilized and relatively large-scale increases in yield were realized. Farmers in the peanut-producing regions all demonstrated their patriotic spirit, their love for the collective and for socialism, and submitted more edible oil for sale to the state. For example, Shantou and Zhanjiang, which are the two major edible oil producing regions, respectively submitted 11 million jin and over 2.9 million jin more edible oil to the state than in the same period last year. [Text] [Guangzhou NANFANG RIBAO in Chinese 28 Dec 81 p 1] 9]96

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LIVESTOCK PRODUCTION UP IN FLATLANDS DESPITE DROUGHT

Shijiazhuang HEBEI RIBAO in Chinese 29 Dec 81 p 1

Large Domestic Animals in the Grassland Area of Zhangjiakou Prefecture

[Article by Hu Yuquan [5170 3768 3123], Jin Hongyu [6855 7703 6657], Ma Yunshan [7456 0061 1472], and Li Shibin [2621 0013 2430]: "Break Through the Confines of the 'Leftist' Ideology, Actively Implement the Production Responsibility System in Livestock Production; Zhangjiakou Prefecture Raises Fat and Healthy Livestock on Flatlands"]

[Text] The leadership at each level of administration of the flatlands in Zhangjiakou Prefecture has broken through the confines of the "leftist" ideology, and has implemented and perfected the production responsibility system of establishing prices for families to purchase livestock and for families to raise and use large domestic livestock in a big way. The growth and fattening of livestock have been generally good, even though the area has suffered severe drought for 2 consecutive years. Over 226,000 head of large livestock on the flatland have already been herded into sheds for feeding for over a month, and the fattening is above 80 percent. The number of sheep has increased to over 814,000 head, surpassing the highest level in history by 10.5 percent. The percentage of large livestock and sheep marketed, the percentage of meat production and the percentage of commercial commodities have all increased over last year.

This year, as the spirit of the Sixth Plenum and the "decision" are passed on and implemented, the Zhangjiakou Prefecture CCP Committee held classes to discuss the standards for truth. The broad ranks of cadres and masses on the flatlands conscientiously reviewed and summarized the experience and lessons in cultivating and managing livestock since the start of the cooperative movement. The wishes of the masses were carried out and the following forms of production responsibility system in raising livestock were implemented: Prices were established for families to raise and use livestock. Each brigade had families raising livestock, and profits from newborn livestock were shared. The female livestock brigades had families raising livestock; the costs were guaranteed, while profits from newborn livestock were shared. These livestock converted into money for the families constituted over 90 percent of the total number belonging to the production teams, fully mobilizing the enthusiasm of the masses to protect and care for the animals.

Mandetang Commune in Kangbao County had a total of 3,047 head of large livestock. Last year, the whole commune suffered from severe drought. This spring, the livestock raised by the collective were thin; so after democratic discussion among the commune members, they were all converted to money for the families. The commune members built cowsheds and added night-time grass as feed. Everyone was concerned. Every family took care of the livestock carefully. The livestock was quickly fattened. Although this year the area again encountered severe drought and although only 50 percent of the annual harvest was achieved in agriculture, the number of livestock did not decrease but increased by 412 head over the number before the livestock was assigned to the families for feeding. Dasuji Commune in Shangyi County this year realized only 30 percent of the annual harvest. It is estimated that if the livestock had been fed by the collective, there would have been a shortage of 6.6 million jin of grazing grass and a shortage of 660,000 jin of feed. The two combined would have required capital of 192,000 yuan. Because the livestock was distributed to the families for raising, commune members began storing grass and protecting the livestock when autumn arrived, and the feed and grass were basically self-sufficient.

The development of livestock has increased the income of commune members. Up to the end of November, the four counties on the flatlands had already sold over 30,700 head of large livestock and over 109,000 head of mutton sheep, and there were also large numbers of other livestock products.

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HUOLU COUNTY AGRICULTURAL, LIVESTOCK, SIDELINE PRODUCTION UP

Shijiazhuang HEBEI RIBAO in Chinese 29 Dec 81 p 1

[Article by Li Laiping [2621 0171 1627], and Zhang Wenguang [1728 2429 0342]: "Agriculture, Forestry, Livestock Production, Sideline Production All Developed; Income Doubled in 3 Years."]

[Text] Agriculture, forestry, livestock production and sideline production have undergone overall development in Huolu County.

The total agricultural income of the whole county reached over 85 million yuan, an increase of 32.35 million yuan over that before the Third Plenum. The per capita distributed income increased from 89 yuan 3 years ago to 172 yuan, and per capita income from family sidelines was above 50 yuan, so the actual standard of living reached over 220 yuan.

Huolu Country is one-third mountainous, one-third hilly and one-third flatland. It neighbors Shijiazhuang city. It has a foundation for developing agriculture and superior conditions for developing industries and sidelines. After the Third Plenum, the county criticized leftist tendencies, liberated ideology, started out from the actual situation, readjusted agricultural distribution, and sped up the development of agriculture.

First, in agriculture, the county stabilized the production of food grains, promoted cotton production and reduced the cost of agriculture. In food grains production, the county strictly controlled the number of mu planted, increased the per-mu yield, preserved the total yield, and at the same time, transferred cotton appropriately to good land suitable for planting cotton, conscientiously implemented the fixed number of mu, changed false reporting of more while planting less, and prevented interplanting of food grains to squeeze out cotton. This actually expanded the planting area of cotton. In this way, food gain production of the whole county increased from a per-mu yield of over 850 jin before the Third Plenum to 1,000 jin, an average annual increase of 50 jin. This year, although disasters reduced the yield, it was still above 70 jin. Increases in food grains and in cotton were realized. At the same time, the county actively implemented the responsibility system of linking production to remuneration and conserved labor and capital, thus reducing the annual agricultural expenditure by over 2 million yuan. Public accumulation of capital increased by 1.43 million yuan over the previous year, and distribution to commune members increased by 3.34 million yuan, a per-capita increase of 12 yuan.

Second, the county increased building materials, promoted transportation, and developed industry and sideline production in a big way. It organized the communes and brigades to establish production of building materials and transportation services as sidelines. Those who could fire bricks were told to build kilns; those who could quarry were told to build rock quarries to satisfy the construction needs in Shijiazhuang city. At present, over 270 brick kilns, lime kilns, rock quarries and quartz mines have been established. Nearly 10,000 persons have been employed. The net income from sideline production of building materials has reached 6.7 million yuan. Led by the sideline production of building materials, industrial sidelines of casting steel, casting iron, repairs, noodle manufacturing, foodstuffs manufacturing, paper manufacturing, and construction have also developed. The whole county already has over 1,780 such operations employing over 19,000 people.

Third, the county managed forests and fruit production, and actively assisted families in cultivation. Among the whole county's 203 brigades, 192 have established fruit gardens covering a total of 10,000 mu. Annual income from fresh fruits reached 6.21 million jin. In developing livestock production, the county committee actively encouraged and assisted key livestock raising families and specializing families. At present, the whole county has 1,132 key livestock raising families. Led by them, over 95 percent of the total number of farm families throughout the county have engaged in family livestock raising. The per-capita income from family livestock cultivation has reached over 50 yuan.

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BRIEFS

YANCHENG COUNTY AGRICULTURE--Zhengzhou, 18 Mar (XINHUA)--Total grain output of low-yield areas in Yancheng County, Henan, increased from some 100 million jin in 1977 to more than 200 million jin in 1981. Low-yield farmlands account for 40 percent of the county's total area of arable land. [Beijing XINHUA Domestic Service in Chinese 0041 GMT 18 Mar 82 OW]

CSO: 4007/311

ALL-ROUND CAPITAL CONSTRUCTION ON FARMLAND REPORTED

Wuhan HUBEI RIBAO in Chinese 28 Dec 81 p 1

[Article by Cheng Qijing [4453 0796 4544]: "Insist on the Principle of Whoever Benefits Should Take the Responsibility, Mobilize the Enthusiasm of the Masses; Capital Construction for Water Conservancy on Farmland Throughout the Province Is Launched on an Overall Basis"]

[Text] Capital construction for water conservancy on winter farmland throughout the province has been launched on an overall basis. At present, over 890,000 laborers have joined in the work, including over 96,000 people working on key water conservancy projects.

In September of this year, after the provincial people's government held the provincial farmland capital construction conference, the localities and cities held special conferences one after the other to reiterate the goals of the provincial conference and implement the measures decided upon by the provincial conference. The local and city conferences also combined the tasks with the actual situation of the locality and appropriately arranged the tasks for this winter and next spring. Full preparations were carried out regarding ideological and organizational leadership, labor and machinery. After capital construction for water conservancy on farmland was launched on an overall basis, each locality strengthened construction management, implemented the system of professional contracts, established tasks, determined investment, established quality standards and set the time for completion. After construction of the Huohe reservoir in Xunyang Prefecture was contracted by the provincial water conservancy construction corps, construction progressed quickly. The quality of construction also notably improved. All localities with favorable conditions have implemented mechanized construction. Xianning Prefecture has a concentration of 47 large and medium machinery units. Mechanized construction was used in fortifying the Wangying reservoir, in the capital construction of several key places of the Siyi public embankment, and the Chibi dry embankment, and in carrying out annual repairs. Over 2,000 square meters of earth were moved to the construction sites every day. This lessened the labor intensity of commune members and also hastened the progress of construction. The machinery was welcomed by the masses.

At present, engineering command headquarters have been established for over 70 construction projects throughout the province. Construction of some projects has already entered the final stage. The construction project of the canal system of the Sangan canal in the Yingdan irrigated region in Xiangyang Prefecture has had a work force of over 17,000 people since November. Xiaogan Prefecture has organized 100,000 laborers to dredge and repair large and medium reservoirs, pumping stations and canals through concentrated effort. Work on certain segments of the canal has been completed. Small water conservancy facilities have mushroomed everywhere. Each locality has insisted on the principle of whoever benefits should be responsible. The labor force that works in ordinary years has been divided and assigned to the construction teams according to the number of laborers needed, including families and individuals, thus mobilizing the enthusiasm of the masses.

Juiji Commune in Nanzhang County began construction at 417 localities this year. It planned to employ 8,000 laborers, but the labor force actually reached over 9,400 persons, and some of the construction projects have already been completed. Each locality has decided to seize the opportune time of winter to complete major construction tasks in one vigorous effort before the spring holidays and to strive for taking the initiative to realize benefits this year and to achieve agricultural bumper harvests next year.

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INDUSTRIAL PRODUCTION OF COTTON BOLLWORM VIRUS STARTED

Wuhan HUBEI RIBAO in Chinese 29 Dec 81 p 1

[Article by Zhang Liang [1728 5328]: "Another New Weapon to Prevent and Control the Cotton Bollworm; Our Nation's Pioneer Effort in Developing the Cotton Bollworm Virus Has Led To the Start of Industrial Production"]

[Text] After 9 years of difficult exploration, industrial production has begun of the cotton bollworm virus developed jointly by the Microbiology Research Institute of the Jingzhou Prefecture, the Insect Virus Research Laboratory of the Biology Department of Huazhong Normal College and the Institute of Automation Applications and Technology in Changsha city. Now there is hope of mass-producing this new pesticide pioneered in our nation to supply the cotton areas.

The cotton bollworm is one of the major pests that causes the most severe damage in cotton production. In the past, highly poisonous pesticides were mainly used to spray the plants. As the resistance of the cotton bollworm became stronger, the effect of control and prevention became weaker; thus, large-scale reduction in the yield of cotton has occurred and people and animals have been endangered. Since 1973, the Microbiology Research Institute of Jingzhou Prefecture and the Insect Virus Research Laboratory of the Biology Department of Huazhong Normal College have cooperated and searched for new methods of biological prevention and control of cotton bollworms. They found a strain of "heliothis nucleopolyhedrosis virus" in the dead bodies of cotton bollworms that had died naturally. This type of virus is strongly infectious. When healthy insects are infected, they quickly become ill and die. During the past several years, experiments have been conducted in 17 provinces and cities throughout the nation and they have proven that the percentage of control and prevention of this kind of viral pesticide is above 85 percent, it is not harmful to humans or animals and it does not pollute the environment.

To enable mass production of this type of virus so that it can be used in large field production early, scientific and technical workers developed a whole set of machinery equipment for year-round cultivation and propagation of cotton bollworms, for infecting them with the virus, and for making the dead insects into pesticide. During the last 10 days of December, experts and professors who joined together to evaluate the product reached the conclusion that the study of the cotton bollworm virus and its industrial production have opened up a new path for preventing and controlling insect pests of cotton in our nation. They also suggested that experimental demonstration be expanded and its application be actively popularized.

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BRIEFS

PINE MOTH CONTROL--Anlu County has used bai jiang (4101 0304) bacteria and Wuhan bacillus and such microbial pesticides to treat the pure masson pine forest of 280,000 mu and has consistently controlled the emergence of and damage by pine moths for 8 years. Anlu County is in a hilly region and is an area where pine moths occur frequently. Because the county insisted on prevention year after year and because it alternately used various microbial pesticides, the area of occurrence of pine moths has been reduced from 80,000 mu in 1974 to 100 mu in 1981. The percentage of trees affected by the pine moth has been contained to below 5 percent. The density of the population of pine moths has also dropped from 66.4 moths per tree in 1974 to 0.1 moth. [Text] [Wuhan HUBEI RIBAO in Chinese 26 Dec 81 p 2] 9296

PEANUT NODULE BACTERIA--The Jingzhou Prefecture Microbiology Research Institute has screened and selected a superior quality peanut nodule bacterium. After 2 years of seed dressing experiments, an experimental demonstration in large fields covering 1,100 mu was conducted at a dozen test locations throughout the prefecture this year. Peanut plants planted from seeds dressed with this nodule bacterium grew prosperously, the leaves were green, the plants had many nodules, the nitrogen fixing ability was strong and the yield of peanuts was high. According to statistics, the yield of the demonstration fields increased by more than 20 percent over the control area. The 3 mu of experimental fields of the Jianghu farm in Tianmen County produced an average per mu yield of 1,100 jin of fresh peanuts, an increase of 34 percent over the control area. The science committee of the prefecture is preparing to popularize this new agricultural technique in a big way throughout the prefecture next year. [Text] [Wuhan HUBEI RIBAO in Chinese 26 Dec 81 p 2] 9296

REGENERATIVE RICE VARIETY--This year, Pugi County introduced the new variety of regenerative rice "yan xian 203" introduced by the Hunan Provincial Agricultural Sciences Academy and test planted it in the hilly regions, in plains, and on the banks of lakes successfully. According to statistics of six test points, the average per-mu yield of the first crop was 305 jin 5 liang. The general characteristic of regenerative rice is that it only needs to be sown once. Its seedlings need to be cultivated only once and they need to be transplanted only once. This can conserve the amount of seeds and labor for a crop. Because the regenerative ability of "yan xian 203" is strong, the total average yield of the two crops is higher than the yield of the local early and late continuous crops. In double cropping rice regions, it is a new variety with great potential. [Text] [Wuhan HUBEI RIBAO in Chinese 26 Dec 81 p 2] 9296

AGRICULTURAL WEATHER OBSERVATION POINTS--The provincial Metrological Science Research Institute and the Wuhan Hongshan Ward Vegetable Bureau have established two special agrometeorological observation points in Hongshan Ward. One is set up at the vegetable experiment station of Hongshan Commune mainly to observe the climatic conditions required for growing beetroots. The other is set up at the vegetable experiment station of Fenghuo Brigade of Qingling Commune mainly to observe the climatic conditions needed for planting and growing lotus roots. The establishment of these two stations will provide meteorological data to improve the planting method of vegetables, to improve the quality of vegetables and to reduce production costs. [Text] [Wuhan HUBEI RIBAO in Chinese 26 Dec 81 p 2] 9296

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LIAONING

BUMPER HARVESTS ACHIEVED IN 1981 DESPITE FLOODS, DROUGHT

Shenyang LIAONING RIBAO in Chinese 17 Dec 81 p 1

[Article: "The Production Responsibility System Mobilized the Productive Enthusiasm of the Farmers; the Value of This Year's Total Production in Our Province and the Income of Commune Members Will Surpass Last Year's; the Average Per Capita Income of Commune Members Received From the Collective and From Family Sidelines May Reach 200 Yuan"]

[Text] Some regions of Liaoning Province suffered major floods and some experienced drought this year, but agricultural production still realized bumper harvests. The total value of agricultural production and the average per capita income of commune members will both surpass those of last year, which was a bumper harvest year.

Major drought has continued for 2 years in Chaoyang Prefecture in western Liaoning and in parts of Jinzhou city and Fuxin city. Some communes in Dalian city and Yingkou Prefecture in southern Liaoning suffered a major flood. the area of damage covered more than 15 million mu, and the disaster area covered 11 million mu, of which 5 million mu produced no harvest. But because the various forms of agricultural production responsibility system were established and made sound by suiting measures to local circumstances this year, the productive enthusiasm of the farmers was mobilized. The agricultural structure was further readjusted. Diversification was actively developed. The standard of scientific planting was elevated with effort. Most regions realized increased yeilds and increased harvests. According to preliminary statistics compiled by concerned departments, this year the total yield of food grains throughout the province may still surpass last year, which was a year of bumper harvests. The total yield of economic crops, except for tussah silkworm cocoons and sunflowers was generally higher than last year's level. Of this total, the yield of cotton throughout the province increased 5.4 percent over last year. The yield of peanuts increased 17.1 percent. The yield of sesame increased 42 percent. The yield of sugarbeets increased 72.4 percent, and the yields of flue-cured tobacco, fruits and vegetables all surpassed those of last year. There were also new developments in forestry, livestock production, sideline production and fishery. This year, income from family sidelines of commune members throughout the province increased by one-third over last year. This yeas has been the best year in history. According to preliminary estimates, this year the average per capita income received by commune members throughout the province from the collective will reach over 126 yuan. Adding this to the income from family sidelines, the actual average per capita income may reach 200 yuan.

At present, the broad masses of commune members in the farm villages throughout the province are enthusiastically submitting and selling new food grains and local specialty products to the state and they are actively carrying out winter production activities to prepare for next year's production.

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CHANGTU COUNTY LEADS PROVINCE IN FOOD GRAIN PRODUCTION

Shenyang LIAONING RIBAO in Chinese 21 Dec 81 p 1

[Article: "Changtu County's Broad Masses of Commune Members Make New Contributions to the Nation Again This Year; the Total Yield of Food Grains, the Amount of Commercial Commodities Submitted and Sold to the State, the Percentage of Commercial Food Grains, and the Per Capita Average Amount of Food Grains Submitted and Sold to the State All Lead the Province"]

[Text] This year, the broad masses of commune members in the farm villages of Changtu County again made new contributions to the nation. The total yield of food grains of the community, the amount and percentage of commercial products and the per capita average of commercial food grains produced all led the whole province.

Up to 17 December, the total yield of food grains throughout the country reached 1.9 billion jin, and 1.05 billion jin were submitted and sold as commercial food grains. The percentage of commercial food grains reached 60.7 percent. Each person provided 1,270 jin of commercial food grains. All of these surpassed the past levels of the county and all ranked first in the whole province. The total yield of food grains in society increased by 810 million jin over that in 1977, prior to the Third Plenum, and the amount of commercial food grains increased by more than 570 million jin. Compared to 1980, a year of large bumper harvests, the total yield of food grains in society increased 330 million jin, and commercial food grains increased by more than 250 million jin. The per capita production of commercial food grains increased by 303 jin, or an increase of 10 percent.

Every brigade of the 37 communes of the whole county increased the yield and the harvests. They did not forget about the nation during the bumper harvests. The amount of commercial food grains submitted and sold to the state not only surpassed 1.7 billion jin, but the quality was also good. The moisture content was low, and many varieties of crops were involved. The whole province produced over 130 jin of soybeans and submitted and sold to the state more than 83 million jin. The first-grade food grains submitted and sold to the state by the whole county constituted 75 percent. Among them, first-grade corn constituted 80 percent, and first-grade soybeans and sorghum constituted over 70 percent. The first-grade product of the 50 million jin of corn submitted and sold to the state by Baoli Commune constituted 98 percent. The water content in food grains dropped by a large amount. The water content in corn averaged 21 Q1 [0003], a drop of three shuifen [3055 0433] from last year. This year's food grain procurement work was emphasized by the county committee and the county government. The food grain departments and the communes and brigades cooperated closely. The power, public secutiry, railroad and transportation departments all cooperated, and compared to last year, procurement was 1 month ahead of schedule.

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CSO: 4007/178

BRIEFS

KAIYUAN COUNTY SOYBEAN PRODUCTION--Our province's home of soybeans, Kaiyuan County, again realized a bumper harvest of soybeans this year. The average per-mu yield of the 250,000 mu of soybeans throughout the county reached 305 jin, creating the highest record and leading the province. During the past 2 years, Kaiyuan County has not only implemented the policy of establishing an agricultural production responsibility system, but it has also exerted efforts in scientific planting, and the yields of soybeans have increased year after year. Last year, the per-mu yield reached 255 jin. This spring, the leading comrades of the county committee and the county government conscientiously listened to the opinions of the agricultural science technicians and implemented five technical measures to achieve high yields throughout the county. The superior variety "kai yu No 8" was used in 90 percent of the plots. Phosphorous fertilizers were applied on a wide basis. Equal distance bunch planting was implemented. The soybean seeds were washed. Insect pests were prevented and controlled in time. Damage by aphids and borers was controlled. The insect population affecting soybeans was reduced to under 2 percent. The highest yielding plots produced a per-mu yield of over 540 jin. [Text] [Shenyang LIAONING RIBAO in Chinese 15 Dec 81 p 1] 9296

PHOSPHATE FERTILIZER OUTPUT--Liaoning Province's 1981 phosphate fertilizer output increased 140,000 tons over the planned figure of the same year, a historical record. This increased output had initially eased Liaoning's phosphate fertilizer's supply and marketing conflict. [Excerpt] [Shenyang LIAONING RIBAO in Chinese 8 Feb 82 p 2]

CSO: 4007/294

DEVELOPMENT OF LIVESTOCK PRODUCTION IN SUBURBS REPORTED

Shanghai JIEFANG RIBAO in Chinese 22 Dec 81 p 2

[Article: "Livestock Production in the Suburbs Develops Steadily in Readjustment; the City Is 60 Percent Self-Sufficient in Pork, Fowl and Eggs"]

[Text] The proposal by the Central Committee of the Chinese Communist Party to "make suburbs the bases for producing supplementary foods" is being gradually implemented in the Shanghai suburbs. It is estimated that by the end of 1981, the percentage of self-sufficiency in meat marketed by suburban producers will reach 59 percent. The percentage of self-sufficiency in fowl for domestic consumption may reach 70 percent. The percentage of self-sufficiency in fresh eggs may reach 64 percent. The marketed amounts of pork, fowl (including export fowl) and eggs have increased 34 percent, 44 percent and more than onefold respectively over those in 1978, prior to the Third Plenum.

The development of suburban livestock production has these three outstanding characteristics:

Because the food grain production tasks in the suburbs are barely sufficient, because the amount of feed is limited, and because of the actual needs of the city people, the guideline of steadily developing live hogs, egg production, dairy cows, herbivorous livestock and fowl in a big way has been followed. The city's concerned departments have ruled that feed for live hogs should mainly be withheld and kept by the collective, and the state should give appropriate rewards. The feed for fowl should be provided by the state. According to production plans, "fowl can be exchanged for feed" and "eggs can be exchanged for feed;" thus the development of hogs, fowl and eggs has been assured. Domesticated animals such as rabbits and sheep, for which feed is not limited, have increased on a large scale. In 1981, the amount of rabbit fur to be marketed may by five times more than the amount marketed in 1978, and the amount of sheepskin marketed may for four times that marketed in 1978.

In livestock production, the distribution of different kinds of livestock has been emphasized in a relatively rational way according to different natural resources, historical custom and technical and economic conditions. The raising of hogs for pork is popular throughout the whole suburban region. The nearby suburban vegetable-producing areas all have rich sources of swill and city slops and most raise hogs collectively. In the more distant suburban food grain and cotton producing regions, the raising of hogs is mostly carried out by commune member families. The production of sheep follows historical custom. Qingpu, Jiading and Shanghai counties raise lake sheep; Congming County and the two islands of Changxing and Hengsha in Baoshan raise goats. The production of egg laying ducks in nearby Shanghai and Chuansha Counties, where labor is abundant and the economic and technical conditions are better, is mostly confined to duck farms. In the more distant Songjiang, Qingpu, Jinshan Counties, where there are relatively more water surfaces, ducks are raised in enclosures and herded.

Because many communes and brigades in the suburbs have a definite family tradition and a definite foundation of raising domestic animals scientifically, the guideline of "equal emphasis on public and private raising" has been further implemented. In the production of hogs, boars and sows are mainly raised collectively and pork hogs are mainly raised by commune member families. Egg laying fowl are all provided by collective farms. Eggs laid by fowl raised by commune member families are mainly used for self-consumption or for sale at markets in the countryside. Higher intensification and specialization has elevated the standards of scientific breeding, feeding and prevention and control of deseases. The overall implementation of the production responsibility system--mainly contracting work to specialists and linking production to remuneration--has also enabled a large number of livestock farms to turn losses into profits. At present, the percentage of livestock farms making a profit has increased from about 40 percent before the Third Plenum to about 90 percent.

The development of livestock production has also increased the farmers' income. During the past 2 years, each laborer in the suburbs has received an increase of 47 yuan in income from the development of livestock production.

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BUMPER HARVEST OF FLUE-CURED TOBACCO REPORTED

Taiyuan SHANXI RIBAO in Chinese 26 Dec 81 p 1

[Article by Yi Xusheng [5030 2485 0581]: "Our Province Realized a Bumper Harvest of Flue-Cured Tobacco; Total Yield of Flue-Cured Tobacco May Reach 60,000 Dan, a Twofold Increase Over Last Year; Self Sufficiency in Cigarettes Increased on a Large Scale"]

[Text] Our province realized a bumper harvest of flue-cured tobacco this year. The 35,000 mu of tobacco fields are expected to produce a total yield of 60,000 dan, a twofold increase over last year. This year will be the third high-yielding year since the founding of the nation. The quality of flue-cured tobacco is also better than in past years. According to statistics of related departments, at present, over 26,000 dan of flue-cured tobacco have already been procured. Of this amount, high-quality and medium-quality tobacco constitute 45.4 percent. This will increase our province's self-sufficiency in raw materials for cigarettes from 5 percent in the past to 25 percent.

The characteristics of this year's production of flue-cured tobacco a[illegible] follows: First, the key counties of the new and old tobacco producin[illegible] realized an overall increase in yield, and the harvests of new tobacco [illegible] are more impressive. The area of flue-cured tobacco in the 12 counties [illegible]ew tobacco regions constitutes only one-seventh the total area of tobacco fields in the province, but the yield of flue-cured tobacco is equivalent to the total yield of tobacco leaves throughout the province last year. The 10 counties in Yanberi Prefecture produced a total of 13,000 dan of flue-cured tobacco, an increase of 26 times over last year. Second, the production of tobacco leaves by the old tobacco regions also revived quickly. Quwo County is expected to produce a total of 20,000 dan of tobacco leaves, an increase of six times over last year. Yicheng County is expected to produce a total of 6,700 dan, an increase of more than threefold over last year. Third, cake manure was applied over four-fifths of the tobacco fields of the whole province, and 70 percent of the area used the superior variety "pan yuan huang". The whole province invited over 420 technical personnel in cultivation and grading to provide technical guidance. All of these measures effectively improved the quality of flue-cured tobacco.

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CSO: 4007/184

PROVINCIAL AGRICULTURAL WORK CONFERENCE SETS FUTURE TASKS

Taiyuan SHANXI RIBAO in Chinese 16 Dec 81 pp 1,3

[Article by reporters of the Shanxi Peopla's Broadcasting Station and this paper: "Provincial People's Government Holds Provincial Agricultural Work Conference. Relying on Policy and on Science To Hasten Agricultural Development, the Conference Asks Participants to Do a Good Job of Establishing, Perfecting, Improving and Strengthening the Agricultural Production Responsibility System. While Carrying Out Food Grains Production, Economic Crops and Diversification Must Be Developed in a Big Way. In Particular, Cotton and Tobacco Production Must Be Promoted"]

[Excerpts] As the new year is about to arrive, the provincial people's government held a provincial agricultural work conference from 3 to 12 December. The conference, which was held in the spirit of the national agricultural work conference, summarized and exchanged the experience of our province's agricultural and livestock production and the production of commune and brigade enterprises, and studied and arranged the tasks of agricultural production for next year and for the period of the "sixth 5-year economic development plan."

During the conference, comrades from all over the province talked about the great situation on the agricultural front in our province. This year, the drought in some part of our province and the continuous rain during autumn in the southern regions of the province seriously affected agricultural production. But except for the yield of cotton, which registered a drop from last year, the production of other crops was relatively good. The total yield of food grains registered an increase over last year. The production of oil-bearing crops registered the second highest yield since the founding of the nation. The yield of sugar beets increased on a large scale over last year. The production of tobacco, silkworm cocoons, medicinal herbs, vegetables, and fruit all realized better achievements. In livestock production, the total yield of meat and such livestock products as eggs and milk all increased over last year. The total value of production and income from services provided by the whole province's commune and brigade enterprises will be able to reach 2.1 billion yuan. The total income of commune and brigade enterprises still constitutes over 40 percent of the total agricultural income. The income of the collective and commune members also registered new increases. It is estimated that the per capital income from the collective added to the income from sideline production by the commune member's family will increase by more than 10 percent over last year. Throughout the province, a large number of "outstanding families" with large increases in income have emerged. On the basis of the per capita average distributed income from the collective, there have emerged a number of communes with over 200 yuan and a number of brigades with over 300 yuan. There have emerged families with over 1,000 yuan of income and families producing over 10,000 jin of food grains and selling over 5,000 jin of food grains. In most of the poor moutain regions and old regions, which constitute a relatively large portion in our province, the per capita amount of food grains has reached about 500 jin, the per capita income has reached about 60 yuan, and the problems of heating and hunger have been basically solved. Now, the situation in the farm villages throughout the province is indeed a scene of political stability,economic prosperity, happiness, growth and prosperity. Our province was able to realize such good achievements in this year of severe drought on the agricultural front mainly because over the past few years, "leftist" mistakes have been corrected, policy has been relaxed, and in particular, the various forms of production responsibility system have been established and perfected, and the productive enthusiasm of the broad number of farmers has been mobilized.

Comrade Luo Guibo [5012 6311 3134] pointed out in his summary report on the situation and the tasks on the agricultural front in our province: This year, on the agricultural front our province has done a lot of work and has realized great achievements in implementing the lines, principles and policies since the Third Plenum. In the future, implementation of related policies of the party must be continually managed well. The most important problem this winter and next spring is to concentrate on truly establishing, perfecting, improving and strengthening the agricultural production responsibility system. Most of the localities throughout the province have conscientiously implemented the production responsibility system, and the results have been good. But it has been discovered that a few brigades and communes have not properly established the production responsibility system. Some have made simple gestures and established a superficial form. Others have provided statistics but have not actually established the system. It is hoped that the committees of the prefectures, cities and county committees will pay attention to this problem and conscientiously investigate, supervise and encourage the localities to truly implement the production responsibility system. Since the Third Plenum, the Party Central Committee has readjusted the distribution of crops, promoted the development of agricultural production, and established a series of economic policies in order to let the farmers rest and build up strength. In particular, the readjustment of procurement prices of agricultural products has provided more benefit to the farmers, and the broad masses are satisfied. The problem now is to conscientiously carry out these policies and to make sure the promises are fulfilled in order to win the confidence of the people. The basic procurement quotas for cotton and oil-bearing crops which have already been established should be stable and should not be changed lightly. The broad numbers of farmers must be taught to look at the whole situation and to begin by exerting efforts to develop production. Except for a few high-yielding brigades which have established an overly high basic quota in the past, making if difficult for them to produce surplus yields and affecting their productive enthusiasm, generally those with a low basic quota must not be adjusted upward, and those with high basic quotas should not be lightly adjusted downward. The signing of contracts for the procurement of agricultural and livestock products must be firmly implemented by the financial and commercial departments. Starting in 1982, except for the materials uniformly procured and commissioned for procurement by the state, regardless of whether the agricultural or livestock products are for foreign trade or for domestic markets, all agricultural products such as bast fiber skin, walnuts, peanuts, sesame, red dates, melon seeds, medicinal herbs, fruits and such livestock products as pork, mutton, domesticated fowl, hides, wool and eggs must be procured by contract. Procurement of the amounts stipulated in the contracts is guaranteed. Amounts not included in contracts can be procured by the commercial departments on the basis of negotiated price. They can also be processed by the communes and brigades and commune members themselves. All communes and brigades, departments of commerce and foreign trade must strictly abide by the contracts. Foreign trade, commercial and supply and marketing departments must actively guide and help farmers sell agricultural sideline products processed by the communes. brigades and commune members after completion of the procurement contracts. This is an important policy to protect the productive enthusiasm of the farmers. The financial and commercial departments should conscientiously implement this policy. The commercial, supply and marketing and foreign trade departments must change the past business method of manipulating prices only. They must think in terms of providing more convenience to the masses of farmers and in terms of opening the channels of flow of goods. Convenience to the masses and timely procurement must be realized in accordance with the production situation of agricultural and livestock products by the masses of commune members through rationally increasing the establishment of procurement stations. The financial and commercial departments must strengthen ideological education of its staff and workers, and establish the ideology of serving the people; the problems of artificially lowering the grade of goods, artificially suppressing the price of goods, and artificially fixing the scale must be strictly dealt with according to the seriousness of the case.

Comrade Luo Guibo said: To quickly enable agricultural production to progress along the road of a relatively solid rate of development, greater economic benefit and a road whereby the farmers can receive more actual benefit, we should also carry out the following work well in a key way in accordance with the present situation of our province's agricultural production:

1. We must actively develop forestry, livestock production and develop the superiority of the mountain regions. The area of mountain regions in our province constitutes over 70 percent of the total area.

2. The province possesses superior conditions for the development of forestry and livestock production. We must pay a lot of attention to planting trees and grass well, improve the percentage of covering, change the ecological environment, and improve the ability to resist natural disasters. We must pay a lot of attention to the development of economic crops and diversification. The conditions for developing diversification in our province are good. There are many favorable conditions for developing planting, cultivating

mining, and processing. We must further liberate our ideology, break through the confinement of the old ways of thinking. While not relaxing food grain production, we must develop diversification. In planting, we must develop the production of cotton, tobacco and sugar beets in a big way. Especially cotton production must be developed with determination. Cotton farmers must be given food grain subsidies according to state regulations, and the provincial committee and the provincial government must provide all kinds of assistance to the extent possible to stimulate rapid development of cotton production. Sorghum is a superior crop in our province's planting sector. It can be eaten and it is also an industrial raw material. It must be developed according to plan. During the past 2 years, although our province's livestock industry progressed somewhat, the number of female livestock has been drastically reduced. If this situation is not changed, the development of the livestock industry will necessarily be greatly affected. Family sidelines of commune member masses must be actively supported to help them develop such domestic fowl and domesticated livestock as rabbits, chickens, ducks, bees, silkworms, and martens as quickly as possible. Commune and brigade enterprises are important components of diversification in farm villages. They are forceful pillars to strengthen and enlarge the collective economy, and they are an important means for the farmers to become rich. Implementing the agricultural production responsibility system does not mean to shrink or chop away commune and brigade enterprises, but to steadily develop commune and brigade enterprises even better during readjustment. The developing commune and brigade enterprises must emphasize and pay attention to processing agricultural sideline products, local specialty products, livestock products, and follow the road of joint ventures in agriculture, industry and commerce. Commune and brigade enterprises can develop cooperation between enterprises both inside and outside the province, but when cooperating with enterprises outside the province, unified leadership and management must be strengthened.

3. We must quickly improve the standard of scientific planting, fully develop the function of scientific and technical personnel. To enable agricultural production to progress along the road of steady development, we must pay attention to the productive force of science and technology and we must truly include scientific planting, scientific cultivation of livestock and scientific management on the daily business agenda of the party committee and government at each level. Just as in establishing, developing and perfecting the production responsibility system, they should be carried out well and intensively. We must pay a lot of attention to developing the function of scientific and technical workers in agriculture and livestock production and the function of model laborers so that traditional agricultural techniques can be closely combined with modern agricultural techniques to stimulate the development of agriculture and livestock production.

4. We must insist on untiringly developing capital construction of farmland, changing the conditions of agricultural production, and improving the ability to resist disasters. We must upturn and improve the presently available cultivated land well on a broad basis. We must pay a lot of attention to increasing the application of organic fertilizers. We must build up large stockpiles of phosphorous fertilizers and small phosphorous fertilizers well,

and solve the problem of the deficiency of phosphorus in the soil. Here, I especially want to talk about the problem of water. During the last few years, because of drought and other conditions, most of the reservoirs and shallow wells have dried up, and the underground water level has seriously dropped. The reserve of underground water has decreased on a large scale. The supply of ground surface water is scarce, so great difficulties have occurred in the use of water for industry, agriculture and living. Our province does not have many ways of developing water sources. At present, we can only take effective measures to control the use of water and to conserve the use of water. The presently available water conservancy projects must have complete equipment. They must be strengthened and maintained to prevent leaks and seepage. In irrigation, border irrigation must be implemented. Flood irrigation must be prevented. When industry, agriculture, offices or schools want to sink deep wells, they all must ask for approval by the water conservancy departments above the county level.

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CSO: 4007/189

BRIEFS

TOBACCO PRODUCTION PROBLEMS--In 1952 there were 110,000 mu of tobacco fields with a total yield of 14.97 million jin. By 1980, the area had dropped to about 10,000 mu with a total output of only a million or so jin; moreover, the quality was not good, thus seriously effecting the production of Shanxi's tobacco industry. Each year a large amount of raw material had o be shipped into the province, reducing the provincial economic income and the income of peasants in the tobacco region of the province. Our serious attention could not but be drawn to this matter. The fact that smoking is harmful to one's health is common knowledge to everyone as is the fact that it is difficult to quit smoking. The supply of cigarettes in the marketplace is limited. The masses have their opinions about this and this too is common knowledge. But for the present, with regard to developing a diversified economy and increasing the peasants' income, there is still a strong need for the suitable development of tobacco production in areas suitable for raising tobacco. The income from growing tobacco is relatively high. In Yanbei Prefecture the three year average yield is 387 jin per mu and each mu can bring in 348 yuan. [Excerpt] [Taiyuan SHANXI NONGYE KEXUE [Shanxi Agricultural Sciences] in Chinese No 1, 20 Jan 82 p 27]

CSO: 4007/328

BRIEFS

1981 AGRICULTURAL PRODUCTION--Provincial Governor Liu Minghui [0491 2494 6540] said in his administration report at the fourth meeting of the province's Fifth People's Congress yesterday that in 1981 our province's agriculture again realized overall bumper harvests on the foundations of the large increased yields of the previous year. The situation in the farm villages is very good. Governor Liu Minghui said that in 1981 our province further implemented the various economic policies in farm villages promulgated since the Third Plenum. The province mainly grasped the two important links of establishing and making sound the production responsibility system on an overall basis and developing diversification. Overall increases were realized in agriculture, forestry, livestock production, sideline production and fishery. The total value of agricultural production is expected to increase 5.4 percent over 1980, and there may actually be a greater increase. The production value of economic crops is expected to increase 33.8 percent. Food grains, major economic crops and the number of livestock will all reach the highest levels in history. The total yield of food grains may reach 17.8 billion jin, an increase of 500 million jin over 1980. Among the major economic crops, flue-cured tobacco will increase by 59 percent, oil-bearing crops will increase by 48.9 percent, and sugar cane will increase by 19.3 percent. The commercial commodities percentage of agricultural products will also increase from 29.6 percent in 1980 to 34.5 percent. [Text] [Kunming YUNNAN RIBAO in Chinese 1 Jan 82 p 1] 9296

CSO: 4007/184

BRIEFS

HOG PROCUREMENT--As of 10 March, 2.38 million head of hogs were purchased in Zhejiang Province, fulfilling first quarter hog procurement tasks ahead of time. [OW221019 Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 16 Mar 82 OW]

CSO: 4007/311

AUTHOR: SHEN Qiyi [3088 0366 4135]
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ORG: SHEN of the Beijing University of Agriculture; CHEN of the Plant Protection Institute, Chinese Academy of Agricultural Sciences, Beijing

TITLE: "Advances in Research Works of Cotton Wilt Diseases in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 1-7

TEXT OF ENGLISH ABSTRACT: Fusarium wilt and verticillium wilt disease of cotton were the most serious diseases in China and caused the loss of about 200,000 tons of ginned cotton per year for several years. Since the establishment of the Association of Integrated Control of Cotton Fusarium Wilt and Verticillium Wilt Diseases, many achievements in scientific research have been obtained.

This paper is a general review of the research work in China on these two diseases during the past 10 years. The topics hitherto undertaken include the studies on species and physiological forms of cotton Fusarium wilt and Verticillium wilt pathogens, breeding for resistance, investigations on plant resistance, host plants, epiphytology studies, seed treatment and integrated control of these two diseases.

By means of resistant variety planting of cotton, about 150,000 tons of ginned cotton have been retrieved every year in recent years.

AUTHOR: LIU Xinyi [0491 0207 5030]
CHEN Xunzhen [7115 1575 4394]

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TITLE: "Studies on the Host Plants of Wheat Rosettle Stunt Virus"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 8-13

TEXT OF ENGLISH ABSTRACT: The host plants of wheat rosettle stunt virus (WRSV) is very widespread. Among the 10 species tested, including 49 varieties of cereal crops, wheat, barley, rye, triticale, oat, millet, proso and certain varieties of sorghum (Baiping and Luyiwaibo) were susceptible; corn and rice were resistant. Among the three grasses tested, species such as wild oat (*Avena fatua*), showy chloris (*Chloris virgata*), fingergrass (*Digitaria adscendens*), etc., were susceptible host plants; the other 19 species, such as barnyard grass (*Echinochloa crusgalli*), goose-grass (*Eleusine indica*), etc., were resistant host plants. No carrier host plants have been discovered. The results of the inoculation experiments demonstrated that the host plants of WRSV were very similar to those of the northern cereal mosaic virus (NCMV) reported in Japan. There were, however, minor differences. WRSV could infect yellow bristlegrass (*Setaria lutescens*) and individual varieties of sorghum, whereas NCMV could not. WRSV could not infect barnyard grass, whereas NCMV did. The authors suggest that WRSV may be a strain of NCMV.

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TITLE: "Identification of Cottor Seedling Disease Fungus"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 14-18

TEXT OF ENGLISH ABSTRACT: The "damping off disease" of cotton seedlings was reported to be caused by *Phytophthora parasitica* Dast in many countries. In recent years a species of phytophthora causing "damping off disease" of cotton seedlings has been prevalent along the Changjiang River, but it has not been identified. We studied the morphological and physiological characteristics of this fungus and found that it is identical morphologically to *P. boehmeriae* which caused boll blight in China, but its capability of starch utilization was quite different. Therefore we are of the opinion that the cotton seedling disease fungus in China may be a biotype of *P. boehmeriae* Sowada.

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et al.

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TITLE: "Breeding of *Geng* Type Hybrid Rice Liyu 57"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 38-42

TEXT OF ENGLISH ABSTRACT: The objectives for the breeding of *geng* type hybrid rice Liyu 57 and the three-line set of a combination for a strong heterosis were described in this paper. The heterosis of the hybrid and its morphological characteristics as well as the evaluation of the productivity were also described. Liyu 57 exhibits a heterosis derived from both its *geng* and *xian* parents and is characterized by semi-dwarf plant height as in *xian* rice and cold endurance as in *geng* rice. The F_1 of Liyu 57 has a wide adaptability and high resistance to adversity (resistance to drought and waterlogging, tolerance to poor soil fertility) when sown as early rice in the single-cropping area in Liaoning Province or rotated with wheat in the double-cropping areas in Beijing and Tianjin districts, and along the Huanghe River and Huaihe River basin where it has shown a high yield potential.

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ORG: All of the Institute of Crop Germplasm Resources, Chinese Academy of Agricultural Sciences, Beijing

TITLE: "Investigation of the Big Grain Germplasm of Wheat in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 43-48

TEXT OF ENGLISH ABSTRACT: Since the founding of the PRC, the TKW (thousand kernel weight) of wheat varieties has been getting bigger and bigger. The mean TKW of the varieties was 31.4 g at the time of the beginning of the liberation, 35.3 g in the 1950's, 38.6 g in the 1960's and 40.5 g in the 1970's.

The average TKWs of varieties bred in various provinces were different. They were restricted by ecological conditions. The whole country was divided into four regions. When we introduced a variety from one region to another, it showed a difference in TKW because the ecological conditions were different.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, 20 Feb 82 pp 43-48]

According to the results of our investigation on the size of wheat grains, we are of the opinion that the criterion for the TKW of big grain germplasm should be over 45 g.

Analysis of the pedigrees of big grain wheat varieties shows that the origins of these varieties are as follows: about 29.12 percent are derived from "Abbondanza," about 26.67 percent from "Orofen," 22.10 percent from "Nan Da," 5.96 percent from "Funo," with the total being 83.85 percent. The varieties whose TKWs are above 60 g have a variety of parentage, consisting not only of *T. aestivum*, but also *T. turgidum*, *T. durum*, *T. polonicum* and *Secale cereale*, etc.

AUTHOR: HU Changhao [5170 2490 3185]
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TITLE: "Studies on the Rules of Assimilate Accumulation and Nutrient Absorption and Distribution in the Summer Maize Plant. I. Rules of the Dry-matter Accumulation and the Variation of Water-soluble Carbohydrates and Free Amino-acid Contents"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 56-64

TEXT OF ENGLISH ABSTRACT: The pattern of the process of dry-matter accumulation in the whole period of growth in a single maize plant appeared in the form of an S-shaped curve. The average dry-matter was 2.26 grams, and the average net assimilation rate was 8.93 $g/m^2/day$. Analysis of the ratio of watersoluble carbohydrates to free amino acids in the maize plant showed that the nitrogen metabolism played a dominant role at the early stage of growth, both the nitrogen and carbon metabolisms were vigorous at the middle stage, and at the late growing stage the carbon metabolism became predominant.

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et al.

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TITLE: "Research on the High-yield Factors and the Population Development of Peanuts"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 71-75

TEXT OF ENGLISH ABSTRACT: A high yield of peanuts with a range from 1003.9 - 1303.2 jin/mu was obtained from 46 plots in 1979-1980. The factors constituting a high yield peanut were found to consist of an actual harvest of 10,500-15,000 plants per mu, 17.2 - 25.0 pods per plant with a total number of 256,000-298,000 pods per mu, and 231-256 pods per 0.5 kg; the seedling population grew strongly and rapidly during the early growing stage, while in the middle growing stage the plants grew steadily and stoutly, and did not show withering of the main stems in the late growing stage; the maximum LAI was 4.5 - 5.5; the best rate of net assimilation was 6.9 - 9.5 $g/m^2/day$, with a total biomass yield of 1840-2404.8 jin per mu.

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WANG Wenke [3769 2429 4430]
WANG Yuchun [3769 3768 2504]
WANG Ming [3769 2494]

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TITLE: "Diagnosis of Transmissible Gastroenteritis (TGE) in Pigs by Examination of Tonsillar Smears with Direct Immunofluorescence Technique"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 1, 20 Feb 82 pp 84-89

TEXT OF ENGLISH ABSTRACT: The results of examination of tissue smears from TGE experimentally infected pigs with the direct immunofluorescence (IF) technique are described. In pigs from the 2nd to 9th day after infection. fluorescence of antigen was observed in 100, 78, 78, 56, 22 and 11 percent of the smears prepared from the tonsil, jejunum, mesenteric lymph node, lung, liver and kidney respectively, and the spleen was negative. In pigs from the 13th to 41st day after infection the positive rate of tonsil was 60 percent and that of the jejunum was only 6.6 percent, while those of the other tissues almost became negative. The total positive rate of the tonsil was 75 percent, and that of the jejunum 33.3 percent.

[Continuation of ZHONGGUO NONGYE KEXUE No 1, 20 Feb 82 pp 84-89]

The accuracy of diagnosis by the direct IF method was confirmed by the results of susceptible pig inoculation and virus isolation in fetal pig kidney cell culture from tonsillar tissues of 25 symptomless, naturally infected adult pigs, and by the detection of TGE neutralizing antibodies in 13 naturally infected pigs showing clinical symptoms which had given positive tonsillar IF results. This procedure of examination is considered to be superior to the jejunum examination. A tonsillar drill was devised for the collection of tonsillar materials from living pigs. Good results have been obtained in the application of this method to the diagnosis of TGE in field outbreaks, epidemiological investigation and import inspection.

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CSO: 4011/41

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TITLE: "Regionalized [Erosion] Control of Grasslands on Loess Plateau"

SOURCE: Nei Monggol ZHONGGUO CAOYUAN [GRASSLAND OF CHINA] in Chinese No 2, Jun 81 pp 7-9, 56

ABSTRACT: The problem of erosion is very serious in loess plateau, sending as much as 1.6 billion tons of sand into Huanghe every year. Including the wastelands, 70 percent (sic) of the plateau are forests, 15 percent farmland, and 75 percent grasslands. One percent of the sand comes from the forest, 49.5 percent from the croplands, 15.2 percent from grasslands, and 112.5 percent (sic) from fallow lands. In terms of erosion control; therefore, aside from emphasizing water and soil conservancy measures of the fields, the grasslands should also be taken care of to prevent runoff, to establish foundations for animal husbandry, and to reduce silting of Huanghe. For the purpose of achieving these goals, the paper divides the grasslands of the plateau into 5 regions: (1) Grasslands of the windblown sand region of the northernmost area of the plateau; (2) A region of hills and ravines south of the first region and north of the forest grassland; (3) Grasslands of the plain region of river valleys; (4) The highland grasslands with the thickest loessial deposits of the plateau; (5) The mountainous grasslands of elevations below 2000m. Grass species suitable for revitalizing each of these regions to transformit into pastures are provided as well as essential measures of wind and water erosion prevention.

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TITLE: "Solar Radiation Resources of the Hulun-Boir Steppe"

SOURCE: Nei Monggol ZHONGGUO CAOYUAN [GRASSLAND OF CHINA] in Chinese No 2, Jun 81 pp 16-19, 6

ABSTRACT: Hulun Boir steppe is located in the northeastern part of China at about 50° N.Lat. It is one of China's pastoral regions of the greatest daylight resources. In May-Jun 75 and Apr-Aug 76, the authors measure its direct solar radiation spectrum and computed its spectral elements. Combined with the 20-year radio observation data of the Hailar Weather Station, the intensity of ultraviolet, visible, and infrared radiation of the growing season of crops (May-Aug in that region) is analyzed. The photosynthesis potential of the steppe is estimated and compared with other regions of China, such as Shanghai, Guangzhou, Chengdu, etc. The paper concludes that although the climate of the steppe is very cold, with a short frostfree period of only about 110 days, the solar radiation is intense and mostly concentrate in the crop growing season, which is also the season of concentrated rainfall to provide very favorable conditions for the crops to utilize the light energy fully.

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ORG: Grassland Research Institute, Chinese Academy of Agricultural Sciences

TITLE: "Preliminary Report of the Forage Mixed Seeding Experiment"

SOURCE: Nei Monggol ZHONGGUO CAOYUAN [GRASSLAND OF CHINA] in Chinese No 2, Jun 81 pp 30-34

ABSTRACT: An experiment has been conducted since 1979 with mixed seeding of alfalfa and such forage species as smooth brome [Bromus inermis], common crabgrass [Digitaria sanguinalis] wild barley, or orchardgrass [Dactylis glomerata] in different amounts and different ratios to compare the unit yield. The experimental farm of the institute is located at 116°04' E. Long. and 43°57' N. Lat, 989.5m in elevation. It has light chestnut soil, pH 7.6-7.8, with a layer of humus about 20cm in thickness and coarse or fine sand below. Seeding is done in late May in small plots of 2 x 6 m. Before seeding, 5,000 jin/mu of mixed farm fertilizer is applied while turning and leveling the soil. Of the various combinations, the yield is found to be the highest when the legume [alfalfa= Medicago denticulata] is seeded in alternate rows of 15cm in width at a ratio of 1 : 1 with smooth brome. Details of the experiment are reported.

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TITLE: "Studies on the Agricultural-Biological Characteristics of White Clover"

SOURCE: Nei Monggol ZHONGGUO CAOYUAN [GRASSLAND OF CHINA] in Chinese No 2, Jun 81 pp 35-40

ABSTRACT: White clover [Trifolium repens] is a native of Europe, in eastern Mediterranean or western Asia Minor. It is said to be cultivated in England as early as 1707 before spreading to the North American continent. Due to the fact that it is a fine leguminous pastoral forage and suitable for lawn decoration as well, it is soon extended to all areas of the world. In China, it has also been used for the pasture as well as the parks. It is now distributed in the wild in Sichuan, Guizhou, Xinjiang, etc., spreading from the original cultivated form. A study was conducted in 1974-80 in Ya'an Prefecture of Sichuan to observe its distribution and ecological adaptability in the basin, in the mountains bordering the basin, and in the Sichuan-Xizang Plateau, i.e. in the region of 26°-34° N.Lat. and 95°-110° E.Long. of an elevation of 180-4200m. Variations in flower and seeds induced by different environmental conditions, variations of yield in soils of different fertility, and other findings are reported.

6248
CSO: 4011/23

AUTHOR: None

ORG: None

TITLE: "Preliminary Report on Laser Treatment of Maize Weevils on Wheat"

SOURCE: Shanghai JIGUANG [LASER JOURNAL] in Chinese No 2, 1982 pp 122-124

TEXT OF ENGLISH ABSTRACT: We treated adult maize weevils (*Sitophilus zeamais* Motschulsky) on wheat with a CO_2 laser. The mortality of the maize weevils reached up to 99.25 ~ 100 percent; it had no adverse effects on wheat germination; wheat moisture was decreased by about 1.7 percent; wheat color was normal and the grains had not been damaged after treatment.

9717
CSO: 4011/43

AUTHOR: WANG Youzhi [3769 0645 2535]

ORG: Hebei Provincial Research Institute of Marine Products

TITLE: "Current Condition of Clam Resources in Bohai and Investigation Into Measures for Restoring Them"

SOURCE: Shanghai HAIYANG YUYE [MARINE FISHERIES] in Chinese No 1, 25 Jan 82 pp 16-19

ABSTRACT: Clam [Arca granosa] is an important economic shellfish of Bohai. Its production in 1976 reached the historical level of 40,000 tons, amounting to a quarter of the marine products of Hebei Province. Its production has dropped rapidly since then and the clam fishing has practically become worthless. There are 2 views concerning the cause of such large scale reduction of clam resources: One is the change of the ocean floor and the water quality induced by the violent earthquake of 1976; the other is the extreme low temperature of the winter of 1976 causing clams to freeze to death. According to net dragging and diving studies carried out in Jul 77, the ocean floor of the areas of clam distribution (map included) remains soft silt. The reported magmatic black water was never observed. Clams inhabit offshore waters all year long. When the atmospheric temperature of the coastal region was down to -12.6°C in the winter of 1977, there was no sign of dead clams at all. The author believes that although complex natural and artificial reasons may have caused the reduction of clam resources, excessive harvesting is the major factor. He advocates a rotation of areas open for fishing, shortening the fishing season to 5 months a year, and closing all areas from late Jun to early Sept, the reproductive season for clams. Measures should also be found through scientific research to promote propagation, to protect the clam resources, and to transplant clams to these areas which are most suitable for their growth.

6248
CSO: 4011/22

AUTHOR: LONG Zhenxiong [7127 2182 7160]

ORG: Shaoyang Prefecture Institute of Forestry, Hunan Province

TITLE: "Green Budding Points and Roots Obtained From Anther Culture of Camellia oleosa"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese No 11, 11 Nov 81 p 6

ABSTRACT: For the purpose of finding new ways of breeding Camellia oleosa, research on its anther culture to develop haploid plants was carried out in 1976-80. Green budding points and roots resulting from evolving anther callus tissues have just been obtained. Following various unsuccessful attempts, roots were obtained under the condition of constant temperature after the anther was pre-cultured in liquid medium for 12 days and transferred onto a solid medium. When the anther callus was cultured with the medium of N_6(3% cane sugar, pH 5.8) with BA (2) + IAA(0.5) + 5Br (0.5) + riboflavin(1) added for 60 days under the room temperature of about 18°C and lighting condition of 10-12 hours/day with a fluorescent lamp, green budding points appeared; these budding points extended obviously after they were cultured for another 10 days. But due to limitations of objective factors [not specified] and contamination, a complete seedling was not obtained. Details of the experiment are reported.

6248
CSO: 4011/10

AUTHOR: WANG Zhaofeng [3769 0340 7364]

ORG: Research Institute of Forestry, Chinese Academy of Forestry Sciences

TITLE: "Approach to Improving the Effectiveness of Air Seeding"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Feb 82 pp 15-17

ABSTRACT: Since the adoption of the air seeding technique in China in 1958, 170 million mu have been experimented and 70 million mu of adult and young forests have survived, amounting to 15 percent of the country's total forestation area. Judging from the afforestation schedule, the result of air seeding remains to be less than satisfactory and many problems are in need of studies. Due to such factors as flight altitude and speed, direction and speed of wind, seeding equipment, the length and width of the area to be seeded, etc.some places are seeded repeatedly and others are missed altogether. There are also problems concerning the natural conditions which vary a great deal from the north to the south, from one mountain slope to the other, etc. Characteristics of the species also present some problems. At present, the 3 species of Pinus massomania Lamb, P. sinensis [P. tabulaeformis Carr.?] and P. yunnanensis are the major ones used in air seeding. They are highly drought resistant. The survival rate should improve.

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END

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I. GENERAL INFORMATION

WHEAT EXPERT OUTLINES PROBLEMS IN MODERNIZATION OF AGRICULTURE

Beijing GUANGMING RIBAO in Chinese 1 Feb 82 p 2

[Article by Correspondent Li Linhe [2621 2651 3109]: "Several Problems in the Modernization of China's Agriculture--A Visit With Peasant Wheat Expert Liu Yingxiang [0491 2019 4382]"]

[Excerpts] China's famous peasant wheat expert and vice chairman of the Henan Provincial Agricultural Commission, Liu Yingxiang, visited the United States on invitation last October to participate in the Second Meeting of the Sino-U.S. Joint Commission on Scientific and Technological Cooperation in the field of Agriculture. After he made a speech at the meeting, delegates from every country unanimously acclaimed him as "the man with the most experience at this meeting."

At the conclusion of the meeting, American agricultural scientist Dr George Keyworth and his wife accompanied him on a special trip to many places. Old Liu said that during this visit to the United States I not only saw the high degree of mechanization, and extensive use of farm chemicals that a developed economy has provided their agriculture, but I also saw the serious consequences for agriculture that these advancements have brought about. As a result of large scale use of chemical fertilizer over a long period of time and the lack of microbiological activity, the soil structure of many places has been damaged. As a result output is not high, even a decline in output is possible. American government officials at the conference said that unless this problem is solved, by the end of this century the soil structure of all their farmland will be damaged. In addition, according to research done by the American National Science Institute, 70 percent of the chemical fertilizer used is not absorbed by the crops, but is either carried away by ground water or is volatilized into the air. This is not only an extremely great waste, but also pollutes running water and the atmosphere. The fruit of crops on which chemical fertilizer and pesticides has been used are themselves polluted. As a result, the United States is now anxious to take the path of organic agriculture. The government has promulgated laws whereby those farms not using chemical fertilizer, pesticides, or herbicides are issued organic farm certificates. Products from farms holding such certificates may be sold at three, four or five times the usual price, and they are very popular.

Old Liu said that China with a population of 1 billion has an extraordinarily copious source of organic fertilizer such as human feces. To take Henan Province as an example, figuring a daily excretion of 3 jin of feces and urine for each of its 73 million population, this means 80 billion jin each year, or an average 750 jin per mu. Henan Province also has more than 6 million head of large cattle, more than 13 million swine, 11 million sheep and goats, 12 million rabbits, and 110 million chickens. Were all the cattle and poultry manure to be used, it would be sufficient to replace all the chemical fertilizer presently used and to improve the soil as well, making the ground more fertile the more it is farmed. Liuzhuang Production Brigade in Qiliying, Xinxiang County uses 10,000 jin per mu of organic fertilizer annually for wheat yields of 800 jin per mu, and corn yields of 800 jin per mu. If every place were to devote the same attention to organic fertilizer as Liuzhuang, the province's grain output would double without question. However, many places in our provinces let large quantities of human and cattle dung disappear, and stalks and stems are burned. Organic content of soil in Liuzhuang is about 2 percent, while it is only zero point something in many other places. I am not denying the role of chemical fertilizer. Chemical fertilizer is a quick acting fertilizer, which when used at certain times increases yields strikingly. What I am saying is that use of organic fertilizer should be paramount.

Liu Yingxiang believes that China's traditional organic agriculture is in need of renewed recognition and renewed evaluation. He proposes organization of experts for conscientious study and diligent summation of China's several thousand years of abundant experiences in agriculture. We must take our own road in the modernization of agriculture.

"Need for Serious Attention to Small Planting Industry, Small Aquatic Breeding Industry, and Small Processing Industry"

Liu Yingxiang said that delegates to the conference from all countries emphasized vigorous advocacy of small-scale biointensive farming methods and development of family style food production. By so-called small-scale intensive farming, it refers to the growing of numerous things on small tracks of land: radishes, cabbage, tomatoes, cucumbers, etc. These can fully and effectively use natural resources and human resources for great increases in yields per unit of area. According to experiments performed by America's California State University, small area growing of cucumbers can produce yields nine times the American average. In places in which the weather is relatively mild, a family of five needs plant only 7 or 8 li [4.7 to 5.3 square meters] to meet the entire family's needs for vegetables. Moreover the expenditure of human labor would not be great, averaging less than 1 hour per day. This is not only something within capabilities, but it would also be very good physical exercise for those who do mental labor. While traveling around in the United States, I noticed that many homes plant food crops in flower gardens. On rooftops and patios, soil has also been added to grow crops of various kinds. On wasteland slopes in the suburbs a great deal of growing is done. A single vegetable garden may grow five or six crops each year of several different kinds. Crops that grow at different speeds are planted, and intercropping of varieties is done for harvests of different kinds at different times. This method both keeps down weeds and prevents disease and insect pests. Intercropping of lettuce and tomatoes, for example, can get rid of many kinds of insect pests that hurt tomatoes. Raising of domestic fowl is also an intensive method. We visited one farm where the feed house had several storeys. On the top storey was rabbits; on the second storey was chickens; and on the bottom one was geese. What the rabbits did not eat, the chickens ate, and what the chickens did not eat, the geese ate. Earnings were between $6,000 and $7,000 per year.

Old Liu was full of confidence and hope about development in China of small planting industry, small aquatic breeding industry, and small processing industry. He said that following institution of systems of responsibility for agricultural production, everywhere in China "outstanding households" appeared. The role of these "outstanding households" should not be deprecated; they have established a model for people. How do they become outstanding? One very important way is by reliance on the "three smalls." RENMIN RIBAO reported that Zhao Qingshan [6392 7230 1472], a commune member in Hebei Province, used a courtyard of slightly more than 0.2 mu to raise hogs and fish, and to grow many things such as cucumbers, celery, radishes and grapes. Some products he processed for sale. He was able to recover costs and had an annual income of more than 3,000 yuan to support 10 people. Right now some cities are experiencing a vegetable shortage. Were all of us to do as Zhao Qingshan did, we would be able to eat anything without any problems. A single hen lays 15 jin of eggs a year. A family of five could raise 15 hens without much trouble for an average of 45 jin of eggs per person per year. However, if one were to depend on a large chicken farm to get this number, that would not be easy. The country would have to spend a lot of money, and if things did not turn out well, it would lose it. China is characterized by a large population relative to land, and it has to make the most of its advantage in having a large population and households. With the liberalization of various rural policies, in particular, commune members have private plots, fields for which they are responsible, and small unused tracts of land, very good conditions for carrying out the "three smalls."

"Most Important Is to Have the Peasants Master Science and Technology"

In talking of this problem, Old Liu sighed with emotion. He said that to realize the modernization of agriculture, he believes there have to be three strengths. One is the strength of leaders. Leaders at all levels must understand science and not resort to blind guidance. Next is the strength of scientists. We scientists and technicians are few in number, but the waste of peoples ability is substantial. Third is the strength of the direct producers--the peasants. These are the keys. Unless advanced science and technology are used to arm the peasants, leadership cadres and scientists will more and more become leaders without a following, and the best research results will not be able to be applied and promoted. In Henan Province, some plots produce wheat yields of 1,000 jin per mu. There are 800 to 900 jin per mu communes and brigades, more than 700 jin per mu counties, and more than 500 jin per mu prefectures. But no one has studied well or summarized well their experiences. Were their existing experiences to be summarized and promoted, the province's total output could be multiplied several times over.

Liu Yingxiang mentioned that now there is a trend toward unpopularity about being in the front line. In the raising of wages and evaluation of positions, it is credentials that are looked at, but insufficiently serious attention is given to actual work accomplishments. Consequently, some scientists and technicians do not want to go to the front line of production, but prefer to close the door and engage in research. This is not to say that laboratory research should be eliminated, but rather that conduct of research should not be divorced from the realities of production, and from the masses. To realize the modernization of agriculture without raising the scientific and technical levels of the 800 million peasants is so much empty talk. Following institution of systems of responsibility for agricultural production, peasant fervor for the study of science and the use of science is very high. In the propagandizing and popularizing of agricultural technical knowledge, all jurisdictions have thought up numerous methods and created numerous systems. We must continue to strive. Once the untiring hands of the peasants are guided by heads full of science, an earth-shaking change will come about in China's agriculture.

9432
CSO: 4007/196

METHODS TO IMPROVE PERSONNEL MANAGEMENT DISCUSSED

Tianjin KEXUEXUE [SCIENOLOGY] in Chinese No 5, 20 Oct 81 pp 44-46

[Article by Zhu Xinmin [4281 2450 3046]: "Ways to Improve Management of Agricultural Scientific and Technical Personnel"]

[Text] The central issue in improving the management of agricultural scientific and technical personnel is to steadily expand the work force, restructure the organizations, and mobilize the initiative of the personnel. Below are a few ideas on ways to improve the management of personnel.

1. Actively Train Personnel for Technical Popularization

The Chinese Academy of Sciences classifies scientific research into four levels, namely, basic research, applied basic research, applied research and popularization research. In order to serve the purpose of production, the academy puts 30-40 percent of its work force on applied research, 5-10 percent on popularization research. Agricultural research units below the provincial level work mainly on applied and popularization research and should devote more of their forces to popularization research. The provincial academy should use 20 percent of its personnel for this purpose; prefecture institutes, over 50 percent; while county institutes should devote their entire force to popularization research and work. Currently practically all the scientific and technical personnel in the provincial academy and the prefecture and county institutes are engaged in applied research (about 40 percent are working on seed breeding). This state of affairs should be changed quickly. Agriculture is restricted by natural conditions, so it is of no advantage to impose arbitrary uniformity over a large area. The key to popularization work are the grass-roots communes and production brigades. If we are to provide each production team with one middle-level technical personnel then we would need 30,000 of them. If we are to provide each production team with one primary-level agricultural technician, then we would need 300,000 for the whole province. It can thus be seen that training popularization personnel and expanding the number of them to popularize technical skills are important parts of work in personnel management. To train the necessary personnel, we should explore diverse means and methods. In addition to existing colleges and universities, agricultural middle schools should be set up in the countryside, while research units at the provincial, prefecture and county level should all take on the task of training personnel, and produce results and qualified personnel to serve the purpose of production.

2. Raise the Level of Scientific Research Personnel

Scientific Research work in our province so far has been mainly on introducing achievements from outside and summarizing them. Creative projects take a secondary place. Take improved varieties of seeds, for example. Over 40 percent of the province's technical force is working on breeding. Only 23.5 percent of the seeds used are staples being used in production or selected from promising varieties by our own technicians. These are sown to limited areas and few varieties have been passed on to other provinces. To change this situation, aside from improving conditions and management, the main effort should be on raising the professional level of the personnel. The main targets of training should be:

(1) Train academic leaders. Generally speaking, leaders should be experienced and have done creative work in their specialized fields and have the ability to lead a group of people in research and contribute to progress in their fields. The average age of the 160 middle-level research personnel in the provincial academy is 48.1. The average age of the 50 supervisors of the 59 completed projects of 1978-79 is 45.3. Of these, 50 percent are 45 or under, the youngest is 34. This shows that it is best to train people under 45 as research leaders.

(2) Train research mainstays. Generally speaking, research mainstays are those who can undertake and complete a task independently, organize research work, produce design plans, and sum up experimental work. The present mainstay personnel are all over 40. To bridge the age gap, we should select people under 45 to be trained as mainstays.

(3) Raise the level of basic disciplines, experimental techniques and foreign languages. Because of the 10-year turmoil and increasing obsolescence of knowledge, everyone faces the question of re-learning and being re-educated. Each person should concentrate on some specialty, and work and learn at the same time.

In training and raising the level of research personnel, we should make full use of existing academic leaders and veteran scientists in local units, regions and provinces. We should also send our people in a planned way to other units, provinces or countries to study. This is of strategic significance and should be carried out in a planned way and without delay.

3. Readjust the Composition of Scientific Research Personnel

To suit the laws of development of sciences and do a good job of scientific research, we should make suitable readjustment of the composition of research personnel. First of all, there should be a proper proportion of personnel in the different disciplines so that research can be conducted in depth and comprehensively. As far as agricultural research units go, what we lack at present are people versed in basic disciplines, applied math and computing techniques, economics, and integration. The United States devotes much effort to this aspect, their engineering and economic personnel, especially, account for 8 percent and 10 percent respectively. We should increase personnel in these areas according to the needs of different units, the proportion to be controlled, say, at 20 percent. Second, through readjustment to more satisfactory padoda-shaped structures should be formed in technical level (high, middle, primary), division of work (researchers, assistants, support personnel), age (old, middle-aged, young). Third, the proportionate composition of administrative personnel, technical personnel and workers should also be readjusted. We should, through training, turn non-professionals into professionals, and gradually reduce the number of workers through the use of machines. The target is to gradually change the proportions from 1:2:4 to 1:5:4. In other words, for every manager, there should be one researcher (or leader), two assistants (or chief researchers), two support personnel, and 3-4 workers.

4. Implement Policies and Make Use Rationally

Like other scientific and technical personnel, agricultural scientific and technical personnel are a part of the working class, a force the party relies on. In recent years, the central and local governments have adopted a series of principles and policies that have mobilzed the initiative of the scientific and technical personnel. But some problems remain to be studied.

First, insist on the socialist principle of material benefits. Among the agricultural scientific and technical personnel now, there is a universal tendency toward equalitarianism. The socialist principle of material benefits has not been put into practice with units and individuals that have made outstanding achievements in science in technology. We should practice the system of personal responsibility for one's area of work. Scientific and technical personnel who have made outstanding achievements should be honored politically, be given appropriate technical titles, and receive appropriate remunerations. The same goes for whole units, so as to encourage people to work hard at mastering foreign languages and basic theories, at studying popularization of science and technology and scaling the heights of science.

Second, insist on training with definite goals and utilizing one's strong points. A research unit should be a collective made up of different kinds of personnel and having definite research capabilities. This collective should have both specialized personnel and comprehensive personnel; both professional personnel and basic and technical personnel; both research personnel and management personnel. After receiving the necessary grounding, the different kinds of personnel should be trained to reach definite goals, with their strong points being put to full use. We should not use professionals as non-professionals, and vice versa.

Third, mobility of personnel. Mobility of personnel is good for both individual growth and scientific progress as a whole. Mobility is also an objective need. Some people may be suited for research, others for teaching or popularization or management. If their present posts cannot make full use of their strong points, mobility can solve the problems. Or, when mutual relationships are not harmonious, and no amount of political-ideological work can achieve expected results, certain mobility should be allowed. Mobility is also necessary to solve such problems as husband and wife living in different places. Ours is a socialist country which is different from capitalist countries, and there cannot be a wide range of free mobility. Perhaps the authorities can apply the following measures to promote mobility: 1) Research institutes should have the authority to transfer and recruit personnel; 2) promote large-scale research cooperation; 3) invite lecturers or send people out for study or refresher courses; 4) send out study groups and organize academic exchange; 5) allow project supervisors to select their own assistants and support personnel.

Fourth. Open all avenues for people of talent. Modernization of agriculture needs large numbers of qualified research personnel, therefore we must open all avenues for people of talent and give them a chance to develop. Aside from training personnel through various channels, we should encourage young people to study on their own. The state should establish necessary systems to allow people who study on their own to take examinations or be assessed at designated places and be issued certificates. Once accepted by a work unit, they should receive equal treatment.

Fifth. Create conditions for scientific research. To bring the role of scientific research personnel into full play, we must provide the necessary instruments, facilities, books and reference materials. Some Japanese friends who in 1980 visited our provincial academy of agricultural science said that while the grounds and buildings were adequate, instruments and equipment were most inadequate. In recent years in the provincial academy, the expenditure for each person each year averaged 2,000 yuan; in the prefecture institutes, 1,500 yuan; in the county institutes, only 1,000 yuan. After deduction of staff wages and miscellaneous expenditures, little was left to purchase instruments and books and to use for scientific research projects. If this situation is not changed, there will be a great waste of qualified personnel. To change this situation, we should, first, increase investments and, second, economize on expenditure and increase income, and ensure key projects and make rational investment.

Sixth. Establish evaluation and promotion systems. The state has already made stipulations regarding promotion of scientific and technical personnel. We also need a complete set of systems to implement the stipulations regarding promotion of scientific and technical personnel. We also need a complete set of systems to implement the stipulations well. Since there is a great lack of qualified personnel in our country, we need to move faster. We should hold evaluations once a year to accelerate the growth of qualified personnel. The main content of evaluations should include a person's professional level, foreign language level, scientific research and work ability, scientific research achievements and work performance, contribution toward the development of agricultural production and its economic effectiveness. Methods of evaluation can combine examinations with summing up work and appraisal of achievements. After assessment, the examinees should be given awards according to the standards they measure up to and be promoted by the academic committee and given corresponding technical titles.

It is this writer's view that as long as the leaders at different levels give full attention to the management of agricultural, scientific and technical personnel and take feasible measures, the ranks of agricultural scientists and technicians is sure to grow in strength and numbers.

9924
CSO: 4007/208

CRITERIA FOR ANALYZING SUITABILITY FOR AGRICULTURAL MECHANIZATION

Tianjin KEXUEXUE [SCIENOLOGY] in Chinese No 5, 20 Oct 81 pp 36-38

[Article by Liu Tianfu [0491 1131 4395]: Institute of Technology Economics, Chinese Academy of Social Sciences: "Fifteen Key Elements in the Economic Analysis of Agricultural Mechanization Techniques"]

[Text] This article explores preliminarily the economic analysis of the agricultural mechanization techniques, bring about 15 key elements that should be given attention. These 15 elements are: standpoint, point of view, methods, demands, capabilities, profitability, time, place, circumstances, objectives, standards, comprehensiveness, focus, steps, and measures.

By so-called standpoint is meant that it is necessary to proceed from the angle of China, or a given region, or a unit. In mechanization, we cannot copy mechanically the experiences of foreign countries or foreign areas, but rather we must analyze and digest them for our own use.

The so-called point of view is used here to mean a scientific point of view based on objective laws and scientific theories, such as the laws of natural change, the laws of growth and development of animals and plants, the laws of ecological balance, the basic economic laws of socialism, the laws of planned proportional development of the national economy, the laws of value, and in certain cases, the theory of gradually decreasing land rewards, and the theory of economic effectiveness. If these laws and theories are ignored, inevitably the objective laws will suffer penalties, resulting in numerous detours and losses in the march toward the mechanization of agriculture.

The so-called methods means the concrete methods of using the philosophical method of dialectic materialism to guide qualitative and quantitative analysis in economic analysis of the agricultural mechanization techniques.

The so-called demands means the requirement to develop direction, tasks, and objectives on the basis of the social needs in agricultural production. When objective realities require the use of a certain kind of agricultural machinery for their solution, or when it can be foreseen that a certain technical and economic benefits can be obtained, we should make a priority solution. For example, for large-scale reclamation of wasteland on the Sanjiang Plain in the Northeast, complete sets of farm machinery should be allocated, on the North China Plain, drying facilities are urgently needed during the three summer, rainy-season jobs [planting, harvesting and field management], and while the urgent need in mountainous and hilly regions is machinery for lifting water and for hauling. Only by carrying out these kinds of selective mechanization can we meet with objective needs.

So-called capabilities means that the utilization of a definite farm machinery must meet realistic technical and economic conditions. Five such conditions are included here as follows:

1. A source of funds. This includes contributions by communes and brigades, bank loans, and disbursements by the state.

2. Realistic industrial capability to provide farm machinery. This includes the variety, model, quantity, and quality of agricultural implements and spare parts, and technical services for farm machines.

3. Energy situation. If the degree of agricultural mechanization exceeds energy supply capabilities, the farm machine utilization rate must inevitably decline, resulting in the falling of the benefits from investing in farm machines. About half the diesel engines in China are used in agriculture, but China does not have a surplus of petroleum; therefore, in the process of China's farm mechanization, handling of the energy problem must certainly not be ignored.

4. Personnel training and scientific management conditions. If farm machines are to be used safely and with high efficiency, drivers and maintenance personnel will have to be trained. Without scientific management, the farm machine utilization rate cannot be very high. A representative survey shows 42 percent of drivers lacking certification. Under these conditions, equipment losses and other accidents are very high; therefore, training of personnel and scientific management are a major situation that cannot be overlooked.

5. Finding opportunities for surplus workforces. China's rural population is legion, and if this problem is not simultaneously solved, smooth development of agricultural mechanization cannot take place.

So-called profitability means that after using farm machines, peasant income should be greater than expenditures, or that costs of using farm machines will be lower than costs before machines were used, or that use of farm machines will enable peasants to earn more income.

So-called time, place, and circumstances means that the design, putting into production, and use of farm machinery must fit in with the time, the place, and the circumstances. Ours is a vast land in which natural conditions and agronomic requirements differ, therefore resulting in obviously different demands of farm machinery. In the meantime, because of the different socio-economic conditions, cultural conditions, technical and management levels in various areas, the farm mechanization process cannot be uniformly the same. There is no doubt that foreign machines and experiences cannot be blindly copied. Diligent study of different kinds of farm mechanization zones and the selection of the most advantageous course, plans, and methods must be done on the basis of an understanding of China's situation and the formulation of agricultural zones. For example, in one low-lying marshy place, machines for the draining of waterlogging are the principal problem to be solved, while in another area that is normally arid, machines for raising water and for spray irrigation should become the area's major stock of farm machinery. As another example, in places where people are numerous relative to land, or where a system of responsibility is practiced whereby production is contracted to households, large farm machines would become inappropriate, and small machines would have to be developed instead.

So-called comprehensiveness means that when analysis and evaluation of economic results of the use of farm machinery techniques, comprehensive analysis of other influencing factors are necessary. It is necessary both to consider value indicators and how to use these value indicators. It is necessary both to consider present and partial economic results and to consider long-term, overall economic results. At the time of comprehensive analysis, it is necessary to consider technical levels, communications and transportation conditions, management levels, changes in the management system, as well as the total labor expenses. Use of advanced machines also requires consideration of factors such as their role in stimulating technical innovation and the raising of the standards of techniques. In importing machinery, it is necessary to consider loan and interest payments, foreign trade price increase constant, and changes in international market prices. It is also necessary to consider the development of China's domestic industry and scientific research, the training of skilled people, and provisions for workforces.

So-called standards means the standards, criteria, and fixed quotas required in the use of farm machines. Standards generally means high output, superior quality, high efficiency, low consumption, safety, and benefits as reflected in the form of numerical values and in the major appraisal indicators for agricultural and economic techniques. Of course, relative comparison should be carried out to meet these standards, but absolute comparison against different fixed quota should also be employed to raise these standards. For example, the standards for putting farm machines on the market are to be based on the zoning plan and the allocation system of farm mechanization. These standards govern from the starting point of putting the farm machinery on the market, to the point where the market is saturated to between the critical margin of exceeding the economic needs, capabilities, and profitabilities and the suitability that is below the relative peak point.

In order to carry out selectively the course of mechanization, all jurisdictions will have to have specific standards. For example, the production brigades in the Northeast that have met the following standards can be "mechanized" first:

1. The average area of cultivated land for which the brigades workforce is responsible is more than 30 mu.

2. The natural resources of forestry, livestock, and fishery is above 5 mu per person in average; and income from industrial sideline occupations amounting to slightly more than 40 percent of total income.

3. Per capita earnings distributions of more than 150 yuan.

In addition, agricultural mechanization work must also give serious attention to study of quotas and conversion equivalents, substantially instituting an average amount of investment in farm mechanization per mu of cultivated land, and a fuel consumption quota per hour per horsepower. Study must be given on how to convert to unified units of measurement of manpower, machines, and draft animals, and on how to convert farm products, diesel fuel, steel, and electric power to comparable thermal units.

So-called objectives means the goals sought through use of farm machines. Mechanization is only a means whose immediate objective is to solve first what is the most needed for the development of agricultural production, what is the most obvious for increasing production and earnings, and what is the most effective in heightening the labor productivity rate, reducing the intensivity of labor, and in improving the labor conditions so as to achieve best economic benefits. The ultimate objective of mechanization is to satisfy society's ever increasing need for farm products and to steadily improve people's living standards. The standards by which the objectives are set should be the commodity rates for farm products, contract completion rate for exchanges of commodities, per capita consumption of various farm products, how many members of the non-agricultural population are supported by the grain produced by each member of the agricultural workforce, average amount of consumption grain per capita in rural areas, per capita distribution of earnings, and gross value of national production per capita.

So-called focus means the focus of farm machine placement in production and use. In regional terms, the focus should be on selection of places and units in which needs are most urgent, potential for increases in yields greatest, conditions for placement in production quite good, and technical and economic benefits quite good. An example is the Songnen Plain where soil is fertile and land plentiful relative to population, each member of the farming population farming 23 mu of land, or 6.2 times the national norm, but where yields average only slightly more than 250 jin per mu, where machine power averages only 0.036 horsepower per mu, and where investment required for farm mechanization averages only between 30 and 50 yuan. By contrast, in the South Jiangsu region, each member of the workforce farms an average of less than 3 mu; yields average about 1,000 jin per mu, and investment required for farm mechanization would amount to more than 200 yuan per mu. This shows that the focal point for placement of farm machinery should be in the northeast, while in the South Jiangsu region only after industrial sideline occupations and economic diversification have developed further to the point where they meet farm machinery placement standards and suitable machinery is available should there be a change in the focus for placement.

So-called steps means having a choice and proceeding in stages in the use of farm machines. Because of limitations posed by various objective factors, and because various conditions differ, we should start from certain major links, and gradually fill in the gaps to complete the whole process, proceeding from initial mechanization to substantial mechanization, and finally to total mechanization. This requires that farm mechanization be done selectively and in stages. Consequently, this requires that we proceed on the basis of actual conditions, and step by step do a good job in farm mechanization plan appropriate to local conditions. Today, manpower used nationally averages 0.02 horsepower per mu of cultivated land; draft animal power averages 0.028 horsepower, machines average 0.022 horsepower, and electricity averages 0.256 horsepower. Looked at in terms of the rural energy resource structure, the ratio of man and animal power is still rather large. Therefore, beginning now and for a fairly long time to come, a situation will exist nationally in which manpower, semi-mechanization and mechanization co-exist, some areas being substantially mechanized and various agricultural production bases being totally mechanized. However, other different areas can carry out mechanization in several stages: Places with large populations relative to land should first lean toward projects such as drainage and irrigation, long distance hauling, drying, and plant protection, to develop guaranteed high-yield and stable output in which achievement by manpower is difficult but by machines is comparatively profitable, then gradually creating conditions for the realization of complete mechanization. In places where population is scant relative to land, emphasis will go first to increasing the labor productivity rate, to assuring that work gets done during the farming seasons, and to selecting projects that can release the most manpower and to achieve breakthroughs. We must carry out, step by step, basic mechanization to benefit production on an in-depth and broad scale.

So-called measures means the economic policy on farm mechanization techniques, production guidelines, and the way the structure of production forces is formed and other guaranty measures. There are questions regarding this to be discussed. In energy policy, for instance, should diesel engines be the main source of power, or should coal, electricity, petroleum, wind, sunlight, water, and gas be developed simultaneously as sources of power? Should farm machines be mostly imported from abroad, or should nationally produced farm machinery predominate? Should mostly high horsepower models of farm machines be developed, or should there be a combination of large, medium, and small models? Should there be mechanization for mechanizations sake with the task of mechanization being completed within a limited period of time, or should there be specialized guidance, concrete analysis, and implementation approach that provides choices? Should there be state-owned tractor stations in the management system? In farm machine pricing policy, how should the state subsidize farm machinery products? Other questions are policies on farm machine repairs and tax exemptions, tractor transport on highways, the domestic exchange rate and lowering of prices for commercial materials supply and importation of farm machinery in foreign trade. Other questions are: wise investment by the technicians and economists engaging in agricultural mechanization, whether the placement and the distribution of farm machines should set a time period for investment recovery, the quota and the number of years imposed on the use of the farm machines, as well as guidelines and policies on financial allocation of specific projects and bank loans. All these matters will have a very large bearing on how farm mechanization develops, the speed of its development, and the extent of its economic benefits. In addition, the improvement of the management system is also very important. For example, policy measures adopted by Wuxi County which called for commune-run grain stations to centralize the drying of paddy not only solved the problem of individual production teams not being able to afford drying machines, the lack of full use of such machines, and the lack of economy in use of such machines, but also the serious problem of rotting grain harvested in summer. All these things bear on analysis of the economic effectiveness of using farm machines.

The interrelationship of the 15 elements in the economic analysis of farm mechanization techniques shows the following: 1. Demands, capabilities, and profitability are the core and major components in the economic study and analysis of the techniques used for farm mechanization. 2. Objectives have to be divided into those that are ultimate and those that are immediate, both of them determining the direction and goals of the application of farm mechanization. 3. In terms of production and social demand, these 15 key elements are only potential requirements. Only when demands, capabilities, and profitability are considered together can these elements be realistically implemented in farm mechanization. 4. In the element of capabilities, there is a relationship among various economic conditions that are mutually conducive and restrictive. 5. Measures and policies are the guarantee in which techniques, principles and the actual implementation can be carried out. 6. Stance, point of view and methods are the guiding thoughts in farm mechanization techniques and economics. 7. Time, place, and circumstances are concrete employment of the dialectic method.

In summary, when we analyze and appraise the application of technique and economy in farm machinery, we should grasp and apply these 15 key elements, looking at the zoning charts, the timetables, and the classification of quota system so as to thoroughly comprehend the overall situation, synthesize research, and analyze and compare in our attempt to ascertain a more accurate economic assessment and conclusions.

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CSO: 4007/207

1981 AGRICULTURAL, SIDELINE PROCUREMENT PLAN OVERFULFILLED

Fuzhou FUJIAN RIBAO in Chinese 19 Jan 82 p 3

[Article from Xinhuashe: "1981 National Agricultural Sideline Products Procurement Exceeded Plan. Procurement Valued at a Total of More Than 23.5 Billion Yuan, a 7 Percent Increase Over 1980, a Record Year Over the Past Several Years"]

[Text] 1981 was China's best year during the past several years for agricultural sideline production procurement. Statistics from the National Supply and Marketing Cooperative Administration show the value of national agricultural sideline production procurement during the year to have totaled 23.54 billion yuan, exceeding plan for the year and showing a 7 percent increase over 1980. The provinces and autonomous regions of Guizhou, Yunnan, Xinjiang, Liaoning, Jiangsu, Shandong, and Jilin in which the extent of increase was substantial, had an increase ranging from 10 to 34 percent.

Agricultural sideline production during 1981 was characterized by pronounced increases in the amount of procurement of raw materials for some major light and textile industries. This helped to ease the tense situation of a supply shortage and to increase warehouse storage of some raw materials. As of the end of December 1981, cotton procurement throughout the country amounted to 52.43 million dan, a more than 4 million dan greater procurement than in 1980 for an 11 percent overfulfillment of plan. Procurement of an additional approximately 3 million dan is anticipated. Jute and amberi hemp procurement has already amounted to 10.38 million dan, exceeding plan by 30 percent. More than 23 million dan of flue-cured tobacco has been procured, exceeding plan by 36 percent. Raw materials for the light and textile industries including ramie, sun-cured tobacco, pure goat hair, sheepskin, and silkworm cocoons also overfulfilled procurement plans.

Another characteristic of last year's agricultural sideline production procurement was the attention given to overcoming the state of turmoil in procurement work and improvement in the planning of procurement. During the past 2 years, tea output annually increased by 400,000 to 500,000 dan, but because of the numerous channels through which it was procured, state procurement plans were not well fulfilled for a time. Last year planning and management were improved and the state purchased 5.43 million dan, an all-time high. Procurement plans for dry products and fruits were also fulfilled rather well. Apple procurement was 360,000 tons more than in 1980, and orange procurement was greater by 70,000 tons. Red dates, black wood fungus, and day lily procurement also overfulfilled plan.

Some problems still exist in agricultural sideline production procurement, however, the major ones being some scarcity of commodity products, and people from non-producing areas going into producing areas where they purchase at inflated prices and capture the sources of supply, thereby impairing fulfillment of procurement plans. Because profits are small and a lot of work required for some third category agricultural sideline products, supply and marketing units are not very enthusiastic about handling them, and the quantity procured has declined. These problems have aroused the attention of departments concerned, and they will be gradually solved in the course of agricultural sideline product procurement this year.

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BRIEFS

GROSS VALUE OF AGRICULTURAL OUTPUT UP-- China's restructuring of the internal structures of agriculture and of agricultural crop patterns has brought fine results. Despite frequent natural disasters during the past 3 years, with increases and decreases in grain production, gross value of agricultural output has increased at a rate of 5 percent each year. Comparison of 1981 with 1978 shows a general increase of more than 15 percent. Data reported by individual provinces shows that the area sown to grain in 1981 was more than 100 million mu, slightly less than that of 1978, yet the increase in grain output was more than 30 billion jin, making it the second highest year for grain output since the founding of the People's Republic. In 1981, cotton, oil-bearing crops, and sugar-bearing crops increased by 31, 80, and 32 percent respectively as compared with 1978. Mulberry silkworm cocoons, tea, and flue-cured tobacco increased by 44, 21, and 12 percent respectively. [Text] [Taiyuan SHANXI NONGMIN in Chinese 12 Jan 82 p 3] 9432

CSO: 4007/201

NATIONAL LOANS TO AGRICULTURE INCREASED IN 1981

Beijing ZHONGGUO CAIMO BAO in Chinese 30 Jan 82 p 1

[Article: "Meeting the Needs of the Implementing of Systems of Production Responsibility and the Comprehensive Development of Agricultural Sideline Production, National Agricultural Banking Departments Last Year Loaned Over 33.2 Billion Yuan; Nearly 90 Percent of the Loans Were Repaid, Due to Good Economic Results"]

[Text] Meeting the nee to implement systems of production responsibility and to comprehensively develop agricultural sideline production, the nation's banking departments in 1981 issued loans to state agriculture, commune agriculture, and brigade agriculture and to commune enterprises and commune members totaling 33.28 billion yuan, an increase of 3.87 billion yuan over the previous year, and effectively supported food and economic crops and the development of a diversified economy.

Last year, the nation's agricultural banks and credit unions issued loans worth over 16 billion yuan to commune and brigade collectives, an increase of 9 percent over the previous year. Banks and credit unions vigorously supported the comprehensive development of agriculture, forestry, animal husbandry, sideline production, and fisheries. According to provincial and municipal ststistics, the proportion of diversified economy loans among agricultural loans to communes and brigades has increased from 30 percent to about 50 percent. The nation's credit unions issued a total of 3.3 billion yuan in loans to commune members--an increase of 2.1 billion yuan over the previous year, or a 1.75-fold increase.

Agricultural banks and credit unions have actively supported the development of commune and brigade enterprises in readjustment and reorganization. Last year the nation's total loans to communes and brigades was 13.9 billion yuan--1.6 billion yuan more than during the previous year, for an increase of 13 percent--mainly to support the developing of marketable consumer goods and medium and small agricultural tool production.

To supply the rapid development of state-run agriculture, agricultural banks last year loaned state-run agricultural enterprises 3.3 billion yuan, an increase of .93 billion yuan or 39 percent over the previous year. The large increase in loans to state-run agriculture was due to increases in state farm-operated industrial sideline production, expansion of the scope of loans, pilot programs in medium- and short-term loans for equipment and support for flood relief and restoration and expansion of production of state farms in Heilongjiang and other provinces.

Owing to the good economic results of the loans, the returns last year were also good. Last year a total of 29.6 billion yuan in agricultural loans was repaid, equal to 89 percent of the loans made.

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AGRICULTURAL DEVELOPMENT POLICY DISCUSSED

Beijing ZHONGGUO CAIMAO BAO in Chinese 2 Feb 82 p 3

[Article by Huang Daoxiz [7806 6670 7209]: "Rely on Policy and Science To Accelerate the Development of Agriculture"]

[Text] When Premier Zhao Ziyang proposed the 10 principles for future economic construction in his government work report to the Fourth Session of the Fifth National People's Congress, he mentioned first of all: "Rely on policy and science to speed up the development of agriculture." He pointed out the path of China's agricultural development and explained the ways and means of this path. Below we discuss this principle from three perspectives.

1. The central issue is improvement of agricultural economic results.

The accomplishments of China's socialist agriculture in the past 32 years have been very great. However, because we have taken a tortuous path, agricultural labor productivity is now very low. In guiding ideology in particular, we suffered in the past from the mistaken influence of the left and did not do things strictly according to objective and natural laws, did not adequately mobilize the initiative of the peasants to develop production and maintain the socialist path, and did not undertake a diversified and comprehensively developed agriculture. In addition, the failure to consider cost in agricultural production, profit and loss in management, and value in labor resulted in an extraordinary waste of manpower, material, financing, and natural resources, so that the economic results in agriculture were very low. These defects have severely hindered the development of the superiority of the socialist system and the accelerated development of the agricultural economy. In carrying out the Party Central Committee's series of principles and policies over the past 3 years, a great deal fo work has been done, the initiative of the peasants has been mobilized, and there have been evident improvements in production and in the income of the peasants, but the defects mentioned above have still not been completely overcome. In particular, improving the economic results in agriculture is a problem that urgently awaits resolution.

Improving the economic results of agriculture requires the establishment of the idea of a comprehensive development of agriculture. We must conscientiously implement the policy of "actively diversifying economically without giving up food-grain production," and correctly handle the several relationships among food crops, between food crops and economic crops, between agriculture, forestry, animal husbandry, sideline production, and fisheries, and between agriculture and commerce, so that all rural construction will be able to develop in concert. China has over 1 billion mu of land under cultivation, over 4 billion mu of grassland, and several billion mu of mountainous and marginal land suitable for forestry and grazing. China has vast shallow waters and coastal waters. In the villages, China has very adequate labor resources, and if only we would firmly establish the idea of comprehensive development under unified planning and management, suiting measures to local conditions, and, according to the different natural conditions of different areas, fully develop the superiority of the natural resources, technical forces, and human resources of each area, concentrating on developing what is suitable for development, we would be able to maximize advantages and minimize shortcomings and achieve greater economic results with less investment. In line with the demand for the comprehensive development of agriculture, forestry, animal husbandry, sideline production, and fisheries, we should tap new sources of production and advance in depth and breadth, and in this way China's agriculture will achieve even greater overall economic results.

2. Rely on policy to develop agriculture.

Since 1979 we have been smashing the bonds of "leftist" thinking, carefully stressing the links of establishing and making viable various kinds of systems of responsibility in agricultural production, and diversifying economically as suits local conditions, and we have begun to readjust agricultural policy and rural production relations and to guarantee the autonomy of production brigades. In this way we not only have overcome the faults of blind commandism in production, the egalitarianism in allocations, and the stifling overcentralization which exists in collective economic management, but through better organization of labor and methods of calculating pay we have brought about a readjustment of rural collective managerial methods and productive relations and have mobilized the productive initiative of the peasants. In addition, the Party Central Committee and State Council adopted a series of measures and policies to develop the rural economy to produce a generally good situation in agriculture which it has not had before. The principal economic forms in China's villages now are collective economies of different scale and different degrees of socialization. Concurrent with this are state farms and commune member family economies which supplement the socialist economy. Such diversified socialist economic structures are good for promoting more rapid development of agricultural productive forces and fully developing the superiority of the socialist system.

Systems of production responsibility are now being universally established in rural areas. We should adopt a positive and serious attitude and unrelentingly do a good job of improving and perfecting the system of production responsibility so as to gradually improve various forms of the production responsibility systems, including agriculture, forestry, animal husbandry, fisheries, industry, and commerce. In stabilizing and improving the system of production responsibility, we must protect the principal position of the people's communes, brigades and production teams, and protect and utilize well the collective means of production and public property that we already have. In particular, we must maintain collective ownership of land, and pay careful attention to protecting land that is under cultivation and arable land that is being rationally used. Any arable land, wasteland, grassland, hilly land, or underwaterland which belongs to a collective but which is not under unified planning and management by the collective cannot unilaterally be occupied and used by any unit or individual. Rights to private plots and hills distributed to commune members by the collective belong to the collective, as does residential land. Every effort must be made to make land contracts reasonable and to strictly prohibit the use of contracted land for building houses or graves or removing soil. Land contracted to a commune member cannot be bought or sold, rented or transferred, or allowed to lie fallow. Otherwise, the collective has the right to reclaim it. The rural basic political rights organizations should be further reorganized and strengthened, and their positive functions should be fully developed. All our rural cadres and commune members must clearly understand that the ownership of China's basic means of production, rural socialist collectivized roads and lands, is unchangeable and that the system of implementation of production responsibility in the agricultural collective economy is unchangeable. The aim of establishing and mkaing healthy the system of production responsibility in agriculture is to improve the rural socialist economic system so as to make the collective economy stronger and better developed.

3. Research in the extension of agricultural science and technology must occupy in an important position.

Science is a latent productive force. Once applicable agricultural science and technology are researched and applied to production, the economic results are very evident. For example, in 1980 the area planted in hybrid paddy rice was expanded to 79 million mu nationally and generally produced over 100 jin more per mu than common paddy rice plantings. This is a clear demonstration of the enormous power of the intellectual investment in science and technology in expanding production. After the system of production responsibility was implemented in the general rural areas, a high tide of "study science, apply science" began to rise.

At present we must combine closely the short-range and long-range needs of agricultural, forestry, animal husbandry, sideline and fisheries production, and formulate a group of sicentific research projects, such as developing and disseminating superior strains, improving cropping systems, improving crop distribution, reforming chemical fertilizer composition, carrying out the rational application of fertilizer, producing effective agricultural chemicals with low toxicity, practicing the selective use of agricultural machinery, etc. In addition, attention should be paid to scientific and technological guidance of the diversified economy and commune members' sideline production. These are all needed by long-range and short-range agricultural production; there should be a planned science and technology assault and a vigorous dissemination to suit local conditions. Agricultural scientific research, educational, and dissemination organs at all levels should work together and produce results as quickly as possible. We should combine China's superior traditions in intensive cultivation and the result of modern scientific and technological research; strive for low investment, low consumption, and high results; and, while protecting the ecological balance, strive for an increase in the agricultural commodities we need from the natural world.

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BRIEFS

ZHANG PINGHUA AT AWARDS MEETING--Beijing, 3 Apr (XINHUA)--The State Agricultural Commission and the State Scientific and Technological Commission jointly held a meeting in Beijing today to present certificates of merit, award certificates and cash awards to units and individuals outstanding in popularizing major results of agricultural scientific research. Awards were presented to 1,248 units and 924 individuals. Vice Chairman Tong Dalin of the State Scientific and Technological Commission presided over the meeting at which Vice Chairman He Kang of the State Agricultural Commission read out the "circular of awarding those who have popularized 224 agricultural scientific and technological results" and the major agricultural scientific and technological results popularized by the award winners. First Vice Chairman Zhang Pinghua of the State Agricultural Commission presented certificates of merit, award certificates and cash awards to units and individuals and made a speech. He stressed: It is necessary to make continuous efforts to eliminate the "leftist" influence and the influence of small producers' parochial ideas and of the force of habit; to thoroughly change the still existing view of looking down on agricultural science and technology, especially on the work of popularizing agricultural science and technology; and to conscientiously give priority to agricultural scientific and technological research and agricultural education and to popularizing results in this regard. [Excerpts] [OW040049 Beijing XINHUA Domestic Service in Chinese 1308 GMT 3 Apr 82]

CSO: 4007/364

INCREASED GRANARY CONSTRUCTION REPORTED

Fuzhou FUJIAN RIBAO in Chinese 19 Jan 82 p 1

[Article by Zhou Jing [0719 7234] and Guo Xun'an [6753 0534 1344]: "Jianyang Prefecture Completes Construction of 20 Granaries"]

[Text] Jianyang Prefecture has newly constructed 20 granaries to increase capacity by 25.5 million jin.

Jianyang Prefecture has had bumper grain harvests for the past several years, and peasant grain sales have increased year by year to the point where a glut of grain in granaries has regularly occurred. Grain units have not been able to make purchases, causing a situation wherein peasants have found it difficult to sell grain. This problem aroused the serious attention of provincial units concerned and of prefecture leaders, who allocated special funds to grain units at all echelons for the building of granaries. Total granary capacity planned for construction in the prefecture is 120 million jin. Granary construction begun in 1981 was threefold that of 1980. Construction has been completed of a granary storage capacity of 25.5 million jin, and 80 percent of the construction has been completed on an additional 25.5 million jin of granary storage capacity. The additional construction of these granaries will help solve a storage problem that has been a key one in peasant difficulties in selling grain. Pucheng County, which is known as the granary of northern Fujian, now has 10 warehouses completed for use, and another 8 warehouses have been built and are awaiting inspection and acceptance before being turned over for use.

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SIX PREFECTURES MEET GRAIN PROCUREMENT QUOTAS

Fuzhou FUJIAN RIBAO in Chinese 19 Jan 82 p 1

[Article compiled from drafts sent in by Huang Wende [7806 2429 1795], Chen Yisong [7115 6318 2646], and Fang Zhenhua [2455 2182 5478], News Report Unit, Longqi Prefecture Grain Bureau: "Six Prefectures Fulfill Grain Procurement Quotas. More Than 1,600 Households Sell 10,000 Jin of Grain. Broad Masses of Peasants Actively Support National Construction"]

[Text] In the wake of Xiamen City, the six prefectures of Longqi, Putian, Sanming, Ningde, Jianyang and Jinjiang fulfilled, one after another, their grain procurement quotas for the entire year.

The broad masses of commune members in these six prefectures fought against numerous natural disasters to win a bumper autumn grain harvest, making up in varying degrees losses sustained in the early crop, for an increase in total output for the year as a whole. Increase in output of autumn grain in Sanming and Jianyang prefectures was between 100 million and somewhat more than 200 million jin. Party and government leaders at all levels gave ideological education to commune members in "concurrent concern for the three" [the state, the collective, and individuals], and in "support to the three," guiding everybody in the establishment of a patriotic concept and a perspective in overall situations and increasing enthusiasm for selling procurement grain, and selling more excess grain. The 21 counties and municipalities in Sanming and Jianyang prefectures fulfilled their procurement quotas in a balanced way. In Longqi Prefecture, 17 communes sold more than 10 million jin of grain, and 72 production brigades made grain sales of more than 1 million jin. In Longhai County, the county with the most procurement grain in the province, commune members maintained their momentum of many years in eagerly selling grain, again fulfilling their procurement quotas for the entire year with 168.94 million jin. Nanjing and Fuding counties, which sustained flood disasters, devoted urgent efforts to early organization of the movement of autumn grain into granaries, and diligently balanced out abundance and scarcity, while at the same time fulfilling procurement quotas as usual. Every production brigade in Lixin Commune, Jianning County had a bumper autumn grain harvest, and every household increased output. The commune put more than 15 million jin of grain in storage in an 18 percent overfulfillment of procurement quotas.

In this prefecture, a steady stream of households has been selling 10,000 jin of grain. Incomplete statistics show that more than 1,617 households have sold

10,000 jin of grain, 22 of them having sold between 20,000 and more than 40,000 jin. In Longxi County, which had never had a household selling 10,000 jin of grain, 101 households have joined the ranks of households selling 10,000 jin of grain.

Analysis of grain quality purchased by grain units shows quality of grain entering granaries to be better than in former years. Grain of better than medium quality accounts for more than 80 percent of the total. Communes and brigades in Zhangpu County sold 18 million jin of autumn grain. Following winnowing and sifting, comparison of this grain with national grading standards at the time of storage showed 90 percent to meet better than medium grain standards.

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OVERFULFILLMENT OF GRAIN PROCUREMENT TASKS DESPITE NATURAL DISASTERS REPORTED

Lanzhou GANSU RIBAO in Chinese 4 Jan 82 p 1

[Article by Cheng Wensheng [2052 2429 3932]: "Jiuquan Prefecture Overfulfilled 1981's Grain Procurement Task"]

[Text] Statistics from 30 December 1981 show that Jiuquan Prefecture has placed in granaries 211.89 million jin of grain; an 0.9 percent overfulfillment of grain procurement quota, thereby having completed state purchase tasks.

Last year Jiuquan Prefecture sustained diverse natural disasters, but thanks to the strenuous labor of the broad masses of cadres and commune members who took various rescue actions, the damage caused by the natural disasters was reduced. Following the grain harvest, prefecture and county leaders went into communes and brigades where, depending on the extent of plenty or want, they promptly readjusted tasks for communes and brigades that had been hard hit and where hardships were great. In a demonstration of no reduction in their contributions despite reduction in output, the broad masses of cadres and commune members diligently carried through the principle of concern for the three [the state, the collective, and individuals], and actively completed their tasks. Anxi County overfulfilled quota by 15.7 percent and completed its procurement task for the full year 16 days ahead of schedule, with each member of the farming population providing the state 617 jin of commodity grain, an all-time record. More than 80 percent of first and second grade wheat has been placed in granaries in Jinta County.

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CSO: 4007/195

CORN GROWING IN MOUNTAIN REGIONS EXTOLLED

Lanzhou GANSU RIBAO in Chinese 10 Jan 82 p 1

[Article by Reporter Yang Chunchang [2799 2504 2490]: "Corn Yields of 785 Jin Per Mu From Mountain Drylands; Seven Peasant Households in Jishishan Produce Fruitful Results From Scientific Farming"]

[Text] A total of seven commune member households including that of Zhang Dengqing [1728 4098 3237] in Hejiacao Production Team, Guanjiachuan Commune, in Jishishan County organized the scientific farming of 18.67 mu of mountain dryland corn for yields averaging 785 jin per mu, creating a record yield from drylands in the mountain area for which they obtained a 2,800 yuan reward from the county government.

These seven households of commune members studied science and applied science. It was after the institution in 1980 of the contracting of work tasks to individual households, and after they saw that a county farm technician and cadre's family having had produced corn yields that averaged 216 jin more per mu, did the seven households of commune members decide to begin scientific farming. They took the initiative in seeking instruction from this farm technician cadre in the scientific principles of high corn yields, organized, and asked this farm technician cadre to guide them in running an experiment in high-yield farming. They also selected as the object of their experiment the major locally grown crop, corn. In the course of the experiment, they made sure to do the following: 1. rational rotation of crops; 2. use of superior varieties; 3. reasonably close planting; 4. scientific composting of manure and spreading of manure; 5. chemical treatment of seeds, disinfecting of soil, and removal of diseased plants.

Following autumn harvest, the output of the experimental corn fields of these seven households exceeded the yield per unit area single crop output standards for bumper harvest fields set by the county science committee and the county farm and livestock bureau. Commune member Zhang Denqing's 1 mu of corn produced 995 jin, and Zhang Fenglin's [1728 7364 2651] 5.5 mu of corn produced yields of 875 jin per mu, almost double the yields of surrounding fields. This made the masses realize the potential for increased yields from drylands in the mountain region and aroused mass enthusiasm for science.

9432
CSO: 4007/195

GANSU

BRIEFS

EFFORTS TO COMBAT SNOWFALL--Since mid-March the pastoral areas of Gannan Autonomous Prefecture have experienced heavy snowstorms and the temperature has dropped drastically. Snow measured as deep as 0.5 chi in some grasslands, bringing serious harm to animal husbandry production. To combat the effects of snowstorms, the Gannan Prefectural CCP Committee and government instructed departments concerned to organize three work groups of livestock breeding experts to go to various counties to investigate and help implement animal protection measures. Together with county leaders, these work group members earnestly studied and handled probelsm on deliverying additional fodder and medicine to disaster-stricken areas and dispatching veterinarians to assume responsibility for production teams and herds and organizing mobile medical teams to tend and protect animals, specially female animals, breeding stock and young animals. To ensure the survival of lambs, many livestock raisers braved strong winds and cold weather to graze their animals on the leeward or on grassland where snow was not as deep. Thanks to these feasible measures this prefecture had produced 400,000 young lambs by the end of March and the survival rate reached 90 percent. Presently, snowstorms are still occurring and disaster-combating work is still being carried out in the pastoral areas of Gannan Prefecture. [Text] [SK070752 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 6 Apr 82]

CSO: 4007/364

BRIEFS

COMMUNE, BRIGADE ENTERPRISES--The commune and brigade enterprises in Henan Province fulfilled the quota for the output value of some 3.39 billion yuan and submitted taxes of some 140 million yuan in 1981, a record. Over the past few years, they have conducted readjustment, resulting in increased production. The provincial commune and brigade enterprise bureau recently held a conference to sum up experiences and to strive for a great development of commune and brigade enterprises this year. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 15 Mar 82]

CSO: 4007/364

INTELLECTUALS CREDITED WITH SOCIALLY, ECONOMICALLY USEFUL CONTRIBUTIONS

Beijing GUANGMING RIBAO in Chinese 21 Jan 82 p 1

[Article by Correspondent Yang Kaimin [2799 7030 3046]: "Jiangsu Province's Intelligentsia Play Major Role in Agricultural and Industrial Production. Implement Program of Scientific Study to Serve the National Economy. Jiangsu Provincial CCP Committee Convenes Symposium of Intellectuals in the Science, Technology, and Agricultural Education System to Greet New Year. Xu Jiatun [6079 1367 1470] Expresses Solicitude For and Extends Greetings to Scientific and Technical Workers"]

[Text] "During 1981 the intelligentsia played a major role in Jiangsu Province's increased agricultural and industrial production, and in the new progress made in science, culture, education, and athletics." These words were spoken by Jiangsu Provincial CCP Committee First Secretary Xu Jiatun on 19 January at a discussion meeting of intellectuals in the science education system convened by the Provincial CCP Committee to greet the new year.

During the past year, Jiangsu Province has made steady progress in industrial and agricultural production while in the midst of readjustment. Gross output value of agriculture in the province was 15.6 billion yuan, a 5 percent increase over the previous year for first place in the country. This included a 2.2 percent increase in grain, a 27 percent increase in cotton, a 68 percent increase in oil-bearing crops, and outputs of cocoons, tea, and aquatic products that surpassed the all-time highs. Gross output value of industry amounted to 49.39 billion yuan for second place in the country and a 7.9 percent increase over the previous year. This included a 15.3 percent increase in light industry.

In 1981 Jiangsu Province's intelligentsia put into effect a program of scientific research to serve the national economy. Selection of topics for research was linked closely to production realities for mutual cooperation in joint efforts thereby gaining numerous important accomplishments. In the course of the year, more than 270 items were applied and promoted in production, producing rather good social results and economic benefits. In the field of grain production, acting on the basis of production conditions in Jiangsu Province, farm technicians studied hybrid rice high-yield cultivation techniques. They planted an almost 10 million mu area that produced yields averaging more than 800 jin per mu, a 150 to 200 jin per mu increase over conventional varieties of intermediate rice. This was a major factor in the province's steady development of paddy rice production.

In the growing of cotton, promotion of seedlings cultivation in fields covered by plastic sheeting for later transplanting was done over 50 percent of the growing area, resulting in earlier and more numerous cotton bolls, and producing about 25 jin per mu more of ginned cotton than directly sown cotton, and breaking 10 million dan for 2 years. In the growing of rape, Ningyou No 7 superior variety bred by the Jiangsu Provincial Academy of Agricultural Sciences was promoted. This variety ripens early and produces high yields. Its oil content is high. As compared with the former single season variety, Ningyou No 7 variety ripens 5 to 7 days earlier; yields increase by an average of about 20 jin per mu; and oil content is also from 1.5 to 3 percent higher. In the industrial field, application and promotion of scientific and technical achievements played a positive role in improving quantity and quality of products, in reducing energy consumption, and in eliminating environmental pollution. Results from scientific and technical achievements were particularly striking in the case of the light and textile industries. The Wuxi Enzyme Manufacturing Plant, for instance, which together with the Microbiology Institute of the Chinese Academy of Sciences developed saccharogenic enzyme preparations, produces about half of the country's total output. This plays a major role in the development of the light, textile, and foodstuff industries.

Comrade Xu Jiatun expressed his solicitude and extended greetings to the scientists and technicians who have arduously struggled on the front line of scientific research. The symposium was held amidst enthusiasm and vigor in a lively atmosphere. The more than 200 delegates were filled with exultation. They competed with each other to talk, and they hailed the new achievements of the past year, and also made some constructive suggestions.

The symposium was presided over by Zheng Kang [6774 1660], director of Jiangsu Provincial Bureau of Science, Technology, and Agricultural Education. Also attending the meeting was the provincial governor, Hui Yuyu [1920 3188 1342].

9432
CSO: 4007/195

BRIEFS

CADRES PLANT TREES--According to our reporter, leading comrades of the provincial CCP Committee, the People's Congress Standing Committee, the people's government and the CPPCC Committee, as well as the Changchun Municipal CCP Committee and the people's government, participated today in a voluntary tree-planting activity together with more than 5,000 cadres of organs directly under the provincial and Changchun municipal authorities. At about 0700, leading comrades including Qiang Xiaochu, Wang Daren, Zhang Gensheng, Li Diping, Yu Ke, Zhang Shiying, Song Jiehan, Mu Lin, Chen Hong, Li Youwen, Xiao Chun, Wang Jiping, Liu Yunzhao, Xu Shouxuan, Liu Cikai, Cheng Shengsan, Miao Zhuxian, Feng Yingkui, (Li Yiping), Li Beihuai, (Shi Jingwu), (Sun Shengmin) and (Xin Jianming) together with the cadres went to the (Dadingshan) mountain in (Jingye) commune in suburban Changchun Municipality. During this tree-planting activity, 5,000 people spread out over (Qiangshe) hill of (Dadingshan) mountain. Amid happy laughter, they vigorously planted trees. [Excerpt] [SK110814 Changchun Jilin Provincial Service in Mandarin 1100 GMT 10 Apr 82]

CSO: 4007/364

NEW COTTON VARIETY COMPARED WITH OTHERS

Taiyuan SHANXI NONGMIN in Chinese 5 Jan 82 p 4

[Article by Hao Tuolan [6787 7474 5695], Provincial Academy of Agricultural Sciences: "High Yield Fine Quality Jinmian No 4 Cotton"]

[Text] Jinmian No 4 was bred by the Cotton Institute of the Provincial Academy of Agricultural Sciences. The hybrid progeny of Shanghai small-leaf cotton and Zhongmiansuo No 7 was used as the female parent, and Xuzhou 58 was used as the male parent in sexual hybridization to breed it. Experiments conducted during the 3 year period 1978, 1979, and 1980 have shown this variety to produce yields that are 25.4 percent greater than stock breed Daizi 16, for first position among 11 varieties.

Not only are yields from Jinmian No 4 high, but quality is good. Measurements and test spinning done by the Beijing Fiber Testing Institute show length of fibers of this variety to be 32.41 millimeters, 0.5 millimeters longer than Lumian No 1. Evaluation results from test spinning showed Jinmian No 4 to be class 1 grade 1, its quality meeting national textile standards.

Principal characteristics and properties of Jinmian No 4 are as follows: Fairly high pre-frost flowering. The 3 years of experiments showed pre-frost flowering to average 74.2 percent, 3.44 percent higher than for Daizi No 16. Pre-frost ginned cotton was 28.3 percent more than for Daizi No 16.

Jinmian No 4's resistance to cotton blight and verticillium wilt is the same as for Daizi 16 and Zhongmiansuo No 7, all of which are susceptible varieties. It is sensitive in reaction to water and fertilizer, and unbridled growth is to be guarded against during its late stage of growth.

This variety has a rather long period of growth and is suited for planting in the various cotton growing counties of Yuncheng Prefecture in the intermediate ripening cotton growing regions of Shanxi Province. It is a fine variety for use with plastic film covering the ground to obtain high cotton yields.

9432
CSO: 4007/195

EVER GREATER EFFORTS TO COMBAT DROUGHT URGED

Taiyuan SHANXI RIBAO in Chinese 17 Jan 82 p 1

[Article: "Combat Drought to Protect the Wheat; Combat Drought to Prepare for Plowing, and Win a Bumper Harvest; Provincial Flood and Drought Prevention Command Telephone Conference Calls On All Jurisdictions to Take Action at Once"]

[Text] On the evening of 15 January, the Flood and Drought Prevention Command of the Provincial People's Government held a telephone conference in which it called upon all jurisdictions to act at once to combat drought to protect the wheat, prepare for plowing, and win a bumper harvest in agriculture this year. Deputy Provincial Governor Zhao Lizhi [6392 0500 0037] spoke at the conference.

The drought situation is now severe throughout the province. Snow and rain have been scant since last winter, a total of only 22 millimeters having fallen during the 3 month period October through December, an average 50 percent less than in most years. In many places summer drought was followed by fall drought, and fall drought was followed by winter drought. Because of the small amount of precipitation, a great drop in streams has occurred, and the province has more than 400 small reservoirs that have not filled with water. Winter was virtually snowless, so soil moisture conditions are inadequate, the soil being dry to a very great depth. This has already impaired normal growth of wheat. Furthermore, in many places dependent on ponds, water-retention wells, and streams for drinking water, getting water for people and animals has become difficult.

Meteorological department forecasts call for continued scant rainfall this spring, and drought will continue throughout the province.

In order to reap a bumper harvest this year, the telephone conference called upon all jurisdictions to take action at once in doing a solid job of combat against drought to protect the wheat and to prepare for plowing.

First, do a good job in thoroughly and conscientiously mobilizing peoples' thinking. Right now some comrades are blindly complacent, their comprehension of the seriousness of the drought and the importance of winning a bumper harvest insufficient. Though some have seen the advance of the drought, they are paralyzed because they rely on luck, hoping the heavens will send rain, and do not bend every effort to combat drought. Some have an inaccurate understanding of the system of responsibility, and have slackened their leadership over combat against drought. Some commune members fear the system of responsibility, and fear investment of funds and expenditure of labor; they do not actively combat drought and water the land. All jurisdictions should focus on these ideological problems and repeatedly make clear to cadres and commune members the seriousness of the increase in drought and the importance of combating drought to win a bumper harvest, so that the broad masses of cadres and people will understand the drought situation, have their confidence in combating drought strengthened, and adopt specific measures, firmly joining the struggle against drought.

Second, everything possible should be done to water more and water well. Reservoirs and ponds of all kinds should be used to store water, and temporary projects for water storage in streams should be given attention wherever conditions permit, so that every bit of water that can be stored will be stored. Communes and brigades receiving benefits should be organized at once to clean silt from ditches, put project structures in shape, and inspect and repair machine-powered pumping station facilities so as to be able to devote a larger number of water conservancy facilities to spring irrigation. In order to make the most of existing facilities to combat drought, it is particularly necessary that a system of responsibility for water management be instituted brigade by brigade, well by well, and station by station.

Third, broadly mobilize the masses to carry out harrowing of parched land to preserve water moisture. Three-fourths of the cultivated land in Shanxi Province is dryland requiring prompt rolling before thawing begins in early spring, and harrowing. In places where conditions permit, prompt action should be taken to promote combat against drought by dibbling seeds, seeding with a drill, and by doing concentrated spreading of manure so that spring planting will result in a full stand of seedling crops. In addition, provisions must be made for the planting of drought-resistant crops, a certain amount of seeds being collected and set aside in preparation against famine.

All locales are to strengthen leadership of drought prevention work. The combat against drought to protect the wheat, and to prepare for plowing covers a broad spectrum and requires solution to numerous problems. All locales should designate persons specifically responsible for these tasks; they should revitalize and strengthen organizations for combat against drought, and organize agricultural, water conservancy, electric power, trade, and public financial units for coordinated efforts to solve problems related to the use of electricity, fuel, and funds in fighting drought. Leaders at all levels in prefectures, counties and communes should improve their work styles and organize definite forces. Leaders should personally lead teams into the front line of combat against drought, make on-site investigation and study, supervise, and inspect, and make on-the-spot solution to problems to do a good job of combat against drought.

9432
CSO: 4007/201

BRIEFS

GRAIN OUTPUT--Taiyuan, 16 Apr (XINHUA)--Dingxiang County in Shanxi reaped a total grain output of 200.6 million jin in 1981, up by 27.4 percent from 1978. At the same time, the county raised more than 76,000 head of hogs, 13,480 head of draught animals and 56,000 head of sheep and goats. [OW181255 Beijing XINHUA Domestic Service in Chinese 0125 GMT 16 Apr 82]

CSO: 4007/365

BRIEFS

HIGHLAND BARLEY--Lhasa, 18 Apr (XINHUA)--This year Xigaze Prefecture of Xizang autonomous region will grow a record 659,000 mu of highland barley, accounting for 61 percent of the cropland. Sowing work is now being done in the prefecture. [OW190949 Beijing XINHUA Domestic Service in Chinese 0225 GMT 18 Apr 82]

CSO: 4007/365

Plant Technology

AUTHOR: FANG Wen [2455 2429]

ORG: Institute of Rice, Sichuan Provincial Academy of Agricultural Sciences

TITLE: "Why Can Strong Rice Seedlings With Many Tillers Increase the Yield?"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 2, 17 Feb 82 pp 3-4

ABSTRACT: In the southeastern region of Sichuan, the unit yield of rice of either the intermediate or the dual season systems is neither high nor stable. In either system, the previous crop is usually harvested late and transplanting is late as well. In the early period, the rice plant does not achieve sufficient growth; in the late period, it is easily affected by bad weather. In 1975, the author and colleagues began to study the technique of cultivating strong seedlings with many tillers. Since 1977, the technique has been extended in several million mu of paddies. The practice has proved that a yield increase of 5 percent for intermediate rice and 10-30 percent for dual season rice may be obtained with the technique. In the year 1980, 400 million jin of rice seeds were saved by the technique in Sichuan Province as a whole. The technique involves cultivating 3 types of seedlings: (1) Small seedlings grown in greenhouses to be used for transplanting early; (2) Ordinary strong seedlings suitable when the transplanting is just right; (3) Strong seedlings with many tillers suitable for transplanting wherever the wheat harvest is late. The weight of dry substance, the nitrogen and phosphorus contents, and the root system activity of the second and third types of seedlings are compared to show why the third type may be transplanted late and still produce an increase of yield.

AUTHOR: ZHANG Jinxi [1728 6930 3556]

ORG: Institute of Crops, Chinese Academy of Agricultural Sciences

TITLE: "Questions and Answers Concerning the Method of Promoting or Controlling According to the Leaf-age Indices of Wheat"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 2, 17 Feb 82 pp 7-10

ABSTRACT: Leaf-age is the term given to the time when a given number of leaves appear on the main stem of the wheat plant. The method means to carry out a given field management measure with the number of leaves on the plant as the guidance. These measures of promoting or controlling include mainly fertilizer application, irrigation, and withholding water. The number of leaves on the main stem may be counted directly. In case of numerous tillers, when the seedling has 3 leaves or 5 leaves, a red dot may be painted on the last leaf so that there will be no mistake in counting later on. Scientific basis of this leaf-age technique is analyzed in the following aspects: (1) The principle of coextension of leave-age and organs; (2) Correspondent relationship between leaf-age and spike evolvement; (3) Different fertilizer and water efficiency at a different leaf-age. Procedures and problems in the application of the leaf-age indices are introduced and discussed.

6248
CSO: 4011/67

AUTHOR: ZHANG Pengcheng [1728 7720 4453]
YU Fengming [0060 7685 7686]

ORG: ZHANG of Jilin Provincial Research Institute of Veterinary Medicine; YU of Jilin Provincial Animal Husbandry and Veterinary Medicine General Station

TITLE: "Diagnosis and Prevention of Condition in Swine Similar to Transmissible Gastroenteritis (TGE)"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 1, 22 Jan 82 pp 18-20

ABSTRACT: On 8 Feb 75, at the pig sty of the Jiutai County Bureau of Commerce, Jilin Province, a sow that was awaiting birth was found to suffer from diarrhea, a symptom very much like TGE. By 19 Feb, 119 of the 128 newborn piglets of the sty had come down with the disease, and 80 died. Of the 14 sows, 11 caught the disease. Cases of diarrhea had been reported in nearby communes, but none of the local horses, oxen, sheep, or chickens ever came down with the symptom. Disorders of the intestines, stomach, and kidney can be observed by the naked eye during dissection. Results of pathohistological examinations confirmed the diagnosis of TGE. Aside from treatment for dehydration, it appears that the condition of azotemia as indicated by the mainfestations of the dissected kidneys should be given special consideration. Reports on TGE by Underdahl Mebus, Healterman, E. O., Doyle, E. P., Tamoglia, T. W. Bohl, E. H., Thorosen, and Djurickowic, etc. are briefly reviewed.

AUTHOR: ZHANG Xinru [1728 1800 1172]
WEI Keqian [7279 0344 6197]

ORG: ZHANG Xinjin County Bureau of Agriculture, Sichuan Province; WEI of Wenjiang County Bureau of Agriculture, Sichuan Province

TITLE: "A Survey of Swine Hematuria"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 1, 22 Jan 82 pp 20-21

ABSTRACT: A survey disclosed that swine hematuria occurs mainly in the period from Apr to Oct, and most frequently from Jul to Sep, mostly in a dry spell, extremely rare in rainy days. It occurs mostly to thin pigs and in all cases, the pigs had been fed soybean leaves, turnip leaves, lima bean leaves, etc. that were damaged by aphids. When pigs have been fed 4-5 days with feed materials, 30 percent of which have been damaged by apids, the disease will occur, but it is usually mild. If more than 70 percent of the feed is damaged by aphids, severe cases of hematuria invariably occur in 2-3 days, and the pigs quickly die. Pathological surveys claimed that the disease is caused by aphid-containing feed. The results of dissection and feed analysis performed by the Research Institute of Animal Husbandry and Veterinary Medicine have produced a preliminary diagnosis of formic acid poison, however. The authors believe that as ants like aphid excrement, the aphid contaminated feed is also contaminated by ant excrement, which is, in reality, formic acid. Due to the fact that formic acid is easily dissolved in water, such feed is no longer poisonous after frequent rains.

6248
CSO: 4011/69

Weather Study

AUTHOR: WU Daming [0702 6671 6900]

ORG: Shanghai Central Weather Station

TITLE: "The Abnormal Circulation of 1980 Which Caused Floods and Low Temperature in the Lower Reaches of Changjiang"

SOURCE: Shanghai ZIRAN ZAZHI [NATURE JOURNAL] in Chinese Vol 5 No 1, 1982 pp 25-29

ABSTRACT: Records of monthly averages are analyzed to study the month of Aug 80. The analysis led to the discovery of the fact that although the high pressure system of that month in the subtropics of the North Pacific was strong, its location was shifted much to the south of 30°N, the location of a normal year. Cold air masses came regularly from the East and the West going southward to cause the axis of the greatest westerlies to stay in the vicinity of 32.5°N instead of the vicinity of 42°N of a normal year. The north-south air currents converged in the region of the middle and lower reaches of Changjiang to shift the normal rainy region of the Huanghe southward. Rainstorms occurred easily of course in the region of the relatively large angle of intersection between the line of vortex concentration and the southerly inclined wind. This type of abnormal circulation pattern in East Asia is closely related to the circulation change in the Southern Hemisphere and the Atlantic Ocean.

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Hubei SHUILI SHUIDIAN JISHU [WATER CONSERVATION AND HYDROELECTRIC POWER TECHNOLOGY] in Chinese No 12, 20 Dec 81 pp 1, 53

[Article: "National Conference To Exchange Technical Experience in Surveying and Appraising Surface Water Resources Held in Wuhan"]

[Text] A national conference to exchange technical experience in surveying and appraising surface water resources was held in Wuhan city, Hubei Province, 20-28 October. This meeting was sponsored by the Hydrological Bureau of the Ministry of Water Conservancy commissioned by the Office of the National Agricultural Zoning Committee and the Water Resources Group. Delegates from the water conservancy (hydroelectric power) departments (bureaus) of the provinces, cities and autonomous regions, geological departments, river valley agencies, related schools, and scientific research and design units, totaling over 250 people, attended the conference. The conference received 167 papers and special topic reports.

Deputy Minister Chen Gengyi [7115 6342 0308] of the Water Conservancy Ministry delivered the opening remarks.

The mission of the conference was to exchange and summarize technical experience and some work experience in surveying and appraising surface water resources. The topics included: ground surface water, underground water, the relationship of ground surface water and underground water conversion, and water quality problems. Surveys and appraisal of water resources must answer four questions: first, how much water is available (including regional distribution, changes in time, quality standards, reliability); second, how much water is needed for socioeconomic development (present situation of water consumption of different types, near-term and long-range forecasts); third, what problems exist in the balance of supply and demand; fourth, what measures must be taken to solve existing problems in water resources. After 2 years of work, preliminary estimates show that the total average rainfall in our nation over many years is about 6 trillion cubic meters. The total average runoff in rivers over many years is 2.63 trillion cubic meters, including about 600 billion cubic meters of drainage of underground water from mountain and hilly regions. Separate calculations for the plains show that the comprehensive replenishment of underground water is 180 billion cubic meters. The total replenishment of underground water throughout the nation from the mountain regions and the plains is 780 billion cubic meters. Deducting the repeated amount of conversion between surface water and underground water, the total national water resource is about 2.7 trillion cubic meters. According to survey data of each province, city and autonomous region compiled in 1978-1979, the total annual consumption of water throughout the nation reached 450 billion cubic meters. Of this, about 400 billion cubic meters were used for irrigation in agriculture.

Activities of the conference included the presentation of reports to the general meetings, exchange of experience in small meetings, discussion of special topics and discussion sections in groups. At the general conference, 27 delegates read papers or delivered special topic reports. New topics included a preliminary appraisal of national water quality, estimates of icy river resources of the nation, and estimates of lake and inland sea resources of the nation. After the conference, small discussion groups were organized to discuss five topics: rainfall and evaporation, runoff and replenishment, conversion of the three states of water, water quality surveys and appraisal, and underground water. In addition, discussion groups were set up for each river valley region under cooperative management to discuss and arrange future work.

Several major problems discussed at the meeting were as follows:

1. The method of mathematical statistics and analysis is the fundamental method to study the characteristic values of rainfall and runoff and the pattern of time and space distribution. The key to improving the precision of frequency calculations so that the results are stable and reliable is: reliability of data, consistency of data and adequacy of representation of the series. Therefore, special emphasis must be placed on analysis and examination of basic data and analysis and proof of the adequacy of representation of the series.

How to correct the representation of short series stations positioned over large areas requires further study in the future.

2. Runoff and replenishment are calculated in order to solve the problems in the consistency of the series of data. The methods of calculating replenishment used by various localities include itemized survey and estimation, the study of rainfall and runoff trends, the study of the relationship between rainfall and runoff, the study of the model of runoff genesis, and the method of calculating differences in evaporation. The group discussion of specific topics resulted in the conclusion that surveying and analysis must be combined, many methods must be used, analysis must be comprehensive, and selection must be rational. As to the years of replenishment, group discussion of specific topics led to the conclusion that they should be the years with available actually measured runoff data since liberation. Replenishment should be calculated according to the amount of water lost or gained that year resulting from the affects of water conservancy projects on the upper reaches of the station conducting the measurements. Before liberation, water consumption was minimal, and that amount could generally be neglected in replenishment.

The problem of replenishment of runoff in plains, whether the northern plains or the southern waterway network, whether embankment regions or lake regions, still presents difficulty at present. Some units have proposed starting out by studying the evaporation of water surfaces and land surface evaporation to estimate replenishment. This is worth further exploration.

3. The isopleth graphs of rainfall, runoff and evaporation are a good method to study the patterns of the regional distribution of statistical parameters and the three elements in the balance of water resources, and to obtain the characteristic values of medium and small rivers which do not have available data. Drawing isopleth graphs requires not only that data gathered by a single station span a long period, and that the data are accurate, but also that the distribution of data is even and concurrent. It is difficult for these two conditions to exist simultaneously. Therefore, all data and concurrent data must be utilized to draw these two sets of isopleth graphs.

Topography affects the amount of rainfall. Yunnan and Guizhou Provinces have proposed the method of analyzing the relationship between altitude and rainfall. But the differences between the mountain regions are great, and one must be cautious when using this method.

In the northwestern interior, the high mountain regions and valleys of the Qinghai-Xizang and Yunnan-Guizhou Plateaus, the patterns of variation of the elements in the balance of water, rainfall, evaporation and runoff and the patterns of variation of the elements in the vertical climatic zones are distinct. We should pay attention to analyzing the effect of such factors as the altitude of the topography and the replenishment by melting ice and snow upon the elements in the balance of water.

The key to calculating evaporation is the accuracy of the data and the coefficient of conversion. Our nation's instruments for measuring evaporation are not uniform. At present, data on the conversion of large bodies of water are scarce. Everyone believes it is still better to first convert the data to the E_{601} type.

4. Appraisal of underground water resources can be accomplished by using the average measurement of the amount of water in plains to calculate the amount of replenishment. In ordinary mountain regions where the river valleys are closed and where subterranean flow is not large, separate calculations of underground runoff can be used. The results of appraisal by each region can be checked using the principle of balance of water quantities.

The correctness of the estimates of the various quantities of replenishment is determined by the basic amount of water available and such parameters as the amount of rainfall and the amount of water used for irrigation. The various hydrological and hydrogeological parameters such as the degree of water supply and the infiltration and replenishment coefficients must be selected according to the results of experiment and research at the locality.

To satisfy the demands of agricultural zoning, zoning for water conservancy and zoning of river valleys, the appraisal of underground water resources should be carried out according to natural units and hydrogeological units, and the results should be summarized for each river valley. Besides appraising the average amount of water over many years, we must also appraise the amount of water available under different percentages of guaranteed water supply.

5. Surface water and underground water alternate. Calculating them separately and appraising them separately are not only repetitious but also conflicting. To carry out an overall appraisal of water resources, we must study the alternating relationship among rainfall, surface water and underground water. In regions where underground water is exploited and utilized on a large scale, we must understand the amount of replenishment of underground water, and we must also understand the possible amount of reduction of ground surface water after massive extraction of underground water. The hydrogeological conditions in karst regions are complex. We should select a closed river valley for study and estimate the amounts of underground water and ground surface water simultaneously.

6. In surveying and appraising the quality of ground surface water, the criteria for appraisal are established by selecting the parameters according to the different uses of the water resources, requirements for water quality and the present situation in monitoring water quality in our nation. The method of appraisal presently used is simple and practical. Appraisal of large rivers, lakes and reservoirs using the average values of sections cannot reflect the true situation of pollution of the water quality. Pollution zones should be drawn up for appraisal.

The key problem in water quality appraisal is the quantity and quality of monitored data. The experience of combining the compilation of water quality data and water quality appraisal by the Hui River Committee and Shandong Province is worth popularizing.

Water quality and the quantity of water should be combined for appraisal so that the results are more rational.

7. The problem of water resources is often closely related to the uneven regional distribution of water resources and the variations within the year and between years. We should study the uneven distribution of water and soil resources, seasonal drought and floods, the alternating occurrence of years of continuous drought and floods, and we should analyze the problems that may occur as a result of industrial and agricultural production and problems in exploitation and utilization of water resources.

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NEW DEVELOPMENTS IN HOG RAISING DISCUSSED

Hog Raising Under the New Conditions

Beijing ZHONGGUO NONGMIN BAO in Chinese 7 Feb 82 p 2

[Article by Su Feng [5685 6912], first secretary of the Tangshan Prefecture Chinese Communist Party Committee: "Developing Hog Raising Enterprises Under the New Conditions"]

[Text] The development of hog raising enterprises is a major topic which now concerns the peasants and the rural basic level cadres. I recently paid visits to Leting, Lulong, Qianan and other counties, communes and brigades to research this report, which presents some new conditions and issues for your study and investigation.

1. In the past, hog raising conditions in Tangshan Prefecture were relatively good. This was because at that time the method of "three hogs equals one laborer" was then in effect, and hog raising had predictable advantages. Take Leting County for example. Previously, when a 200 jin fat hog is sold to the state, the state will give 200 jin of feed grains, and in addition the work brigade would also give 33 work points for hog raising and about 28 points for manure collection, and also provide food grains at a price comparable to the state grain price. Income from the sale of one hog, with expenses deducted, came to about 87 yuan. The profit from three hogs figured out to the approximate equivalent of the income from one laborer. Therefore, commune members were at that time very much interested in hog raising. Statistics show that from January through September of 1981, the number of hogs that were raised was up 5 percent and the number in inventory was 2.6 percent higher than the same period in 1980.

2. The current tendency of a decline in hog production requires attention. Nonetheless, it must be observed that there is an increase in household hog raising. Because of certain adjustments which were made in carrying out the "dual contract" system and in hog raising policy there has been a decline in hog raising endeavors. We offer the following analysis. First, after pursuing the "dual contract" resonsibility system it became difficult to sustain collective hog raising. For example, in Lulong and Qianan counties, collective hog raising was reduced by 28,074 head. Second, in the past there was a relatively small ratio of hog raising by staff and worker dependents or by local households without contracts or with few contracts. Now, work points

for hog raising and for manure collection have been abolished, and there no longer is award sales of feed grain, so that raising one hog, deducting the expenses and investment, averages a profit of less than 10 yuan. They feel that such hog raising is "needless bother" and are unwilling to undertake it. For example, in 1980, the Qianan mining district cart-shaft brigade raised 2,800 hogs, mostly by the staff and worker dependents. This has now been reduced to 600 hogs. Third, there is an increase in the number of commune members raising hogs. The more we institute the responsibility system of linking remuneration to sales the more the commune members are willing to raise hogs and accumulate fertilizer. For example, in Qianan and Lulong counties the number of hogs raised by commune members is 31,214 head higher than in the past. Although the commune members are somewhat disgruntled about the decrease in state grain for hog raising, nonetheless as long as the improvements in hog raising policy are continually being made and when propaganda work has fully promoted hog raising, there then will be no major decreases in hog production.

3. The current problems in hog purchases do not stem from a shortage of hogs but rather are mainly caused by butchering and selling by individuals. In Leting, for example, prior to the Spring Festival, 150 jin and over hogs removed from inventory had reached 38,077 head, 3,563 more than at the same time in 1980. Why did the period of 1 October through 15 September of 1981 show throughout the whole district a 20 percent decline in daily purchase quantities compared to the pre-September period? The primary reason was an obvious increase in butchering and selling by individual commune members and increased slaughter by rural butchers. According to statistics from the Leting food products company prior to October 1981 the sale of a 200 jin grass-weight class-two hogs to the state produced revenues of 144.70 yuan. Yet, individual revenues were only about 5 yuan greater than from selling to the state, so there was considerably less individual butchering and selling. After October 1981, there was an additional 3 percent of both purchase tax and sales tax and the food company selling price increased 5 fen per jin, with a 5 fen per jin increase in the price of individually butchered and sold pork. Calculated together, individual butchering and selling of a gross-weight 200-jin hog then produced about 17 yuan more than state purchase of that hog. This was a great stimulus to individual butchering and selling. According to statistics dating from 5 December 1981 for the five major collective markets in Qianan County, food company sales amounted to only 21 percent of the total sale while individual butchering and selling accounted for 79 percent.

4. Following the development of the new conditions there must be continual improvement in certain concrete policies. Based on the principle of the triple consideration of state, collective and individual combines with the actual conditions in these areas, the study of a few possible methods must be done so as to mobilize peasant enthusiasm for hog raising and to guarantee the fulfillment of the purchasing tasks. For example, to guide and encourage commune members to properly manage their private plots so to provide the feed grain necessary for raising hogs, which will develop household hog raising and broaden the hog resources. By signing contracts of assigned procurement, we can promote the fulfillment of the purchase plan. We must not check individual butchering and sales, but we can only permit them under the premise of fulfilling the task of state purchases and collecting adequate tax receipts.

Brigades which are carrying out their responsibilities should institute the methods by which the base for fertilizer investment is established and the adjustment of the deficiencies and surplus can be carried out, as this will solve the problem of fertilizer accumulation for those staff and worker families which raise hogs. We must strengthen market management to put an end to the problem of tax avoidance and tax theft by meat markets. We should also point out that hogs classified as lean meat also show the greatest weight gains after reaching 150 jin, and not providing additional award sales of grain for hogs over 131 jin is not beneficial for the development of the lean meat class of hogs. These problems require further study and investigation in the process of implementation in order to promote hog raising development in our area.

Hog Raising Directive Implemented

Beijing ZHONGGUO NONGMIN BAO in Chinese 7 Feb 82 p 2

[Article: "Four Provinces Thoroughly Implement the State Council Hog Raising Directive"]

[Text] After the State Council sent down the directive on hog raising many provinces, municipalities and autonomous areas implemented it with stepped-up activities. Some provinces have already taken effective measures which have begun to produce results.

In Guizhou Province, in addition to insisting on the original state and collective award sales policy, a regulation was passed stipulating that for each fat hog there would be an allocation of one portion of foraging ground, two portions for each sow, an additional 60 jin of state award sales of grain for each sow and 8 jin for each live piglet born. For each three head of fat hogs turned over to the state by commune members, each household is allocated 500 jin of feed grain by the state.

Zhejiang Province requested that "dual contract" production teams assign both the feed grains and foraging grounds as well as the responsibility for the sale of live hogs either to the households or else keep the feed grain as a unit and award it to the families who sell hogs to the state. For both collectives and individuals, for each fat hog sold to the state there is an additional bonus of 10 industrial goods coupons for commodity items that are in critical demand such as bicycles and sewing machines. A system of assigned hog raising was instituted, implemented by either pig farms or households which raised pigs.

The Hubei Provincial Party Committee decided that each year it would exchange 10,000 dun of urea for oil cakes to make compound feed and improve the feed grain remuneration. For each jin of the gross weight in excess of the portions sold there is a bonus of one jin of unprocessed food grains.

In Hunan Province the September 1981 figure for live hogs in inventory shows a 10 percent decrease compared to that of the same period in 1980. Consequently, the provincial party committee issued a document strongly urging the departments concerned to become closely involved. According to yearend statistics from six prefectures including Anyang, the decline rate of the live hogs in inventory was stabilized at about 0.5 percent.

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MANAGEMENT PROBLEMS IN ANIMAL HUSBANDRY DETAILED

Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese No 12, 23 Dec 81 pp 19 - 23

[Article: "Summary of the Third National Conference on Economic Theories of Animal Husbandry (Part II). Part I published in JPRS 80042, 5 February 1982, No 188 of this series, pp 16 - 23]

[Text] III Production and Circulation Problems

Today a pile of problems exists in the circulation field. There is still quite a bit of leftist rigamarole around, and things that go against objective laws are also fairly numerous. These problems have hurt production and consumption, and unless they are promptly settled, there will be a great deal of future trouble. As some leadership comrades in the Central Committee have said, a bumper harvest can turn into a bumper disaster.

Sufficient serious attention must be directed to the position and role of commodity circulation of livestock products, both viewing seriously and studying production, and viewing seriously and studying circulation. A large body of facts has demonstrated that sole attention to production and no attention to circulation makes it difficult to do a good job in production, and often, because circulation exerts a drag on production, the more hurry the less speed.

Everyone is aware that an extremely important problem in the commodity circulation of livestock products is how to arrive at a correct price for livestock product..

Comrades have said that following the Third Plenary Session [of the 11th Party Central Committee], when the state made planned increases in procurement prices paid for some livestock products and shortened the price scissors, the peasants derived material benefits, which raised their enthusiasm for livestock production and advanced development of livestock industry production to bring about a preliminary change in the situation of shortage in commodity in circulation of livestock products.

However, some problems still remain in prices of livestock products today. 1. Some prices for livestock products continue overly low, as is the case with beef. for example. For a long time the state has set procurement prices paid for beef on a general standard for old and decrepit cattle, the procurement price averaging 0.40 yuan per shijin, which is lower by more than 30 percent than the average actual feeding cost of 0.60 yuan. In some parts of Nei Monggol, sale of a beef animal of about 500 jin live weight entails a loss of more than 200 yuan, and a similar situation exists in the case of other domestic animal and poultry products such as cowhide and honey. 2. Price parities between industrial and livestock products are not fair. For example, a milking machine costs more than 3,000 yuan, meaning that herdsmen would have to sell between 70 and 80 head of cattle to be able to buy one. For a shearing machine, herdsmen would have to sell between 650 and 700 head of sheep. Procurement price paid for a cowhide averages about 20 yuan, and between four and five pairs of boots can be made from the hide. Figuring a value of 40 yuan per pair, their total value would be 160 to 200 yuan, a four to five fold difference in cost price of raw material. Herdsmen in Xinjiang say, "it is better to ride a cow than to wear a pair of boots." 3. Parity prices among farm and livestock goods and among livestock goods are not fair. The price for superfine Xinjiang wool is 16 percent lower than the price for long cotton. In Nei Monggol, the procurement prices paid for fine wool and semi-fine wool are identical, but only about 5 kilograms per year of fine wool is obtained from a fine wool sheep, while only about 2.5 kilograms per year of semi-fine wool is obtained from a semi-fine wool sheep; thus the income from raising one semi-fine wool sheep is between 5 and 10 yuan less than from raising one fine wool sheep. Consequently, the masses and production units do not want to raise semi-fine wool sheep, so development of semi-fine wool sheep is slow and unable to satisfy national needs. Every year more than 5,000 tons of semi-fine wool has to be imported at a cost in foreign exchange of more than $20 million. 4. The practice still exists whereby quality is deprecated in order to force down the price to be paid, whereby dressed weight is estimated by looking at animals, and whereby grade of meat is lowered in order to lower price to be paid. State Council document number 26 issued in 1979 clearly stated that when buying cattle, "each head must be weighed, and a price set on the basis of quality, with no forcing down of grade in order to lower the price to be paid, and no looking at herds and estimating a price to be paid." However, as of today this problem still has not been solved.

In some places, the masses are very dissatisfied about the difficulties in selling hogs, and this subject has become a major topics for discussion by party representative assemblies and people's representative assemblies. Live hog production has become a burden. What is the reason for difficulties in selling hogs? One view holds that the essence of the difficulty in selling hogs lies in overproduction of commodity hogs, that is to say that production of commodity hogs has exceeded ability to pay for commodity hogs. Another viewpoint holds that low purchasing power is a factor causing difficulties in selling hogs, but the essence of the problem is circulation. Everyone put forward the following several suggestions.

1. Need to change the system of independent families doing business. The comrades believed that the livestock industry is funadmentally commodity production requiring full play of the role of price laws with some competition. Currently the commercial system whereby individual families do business is not compatible with commodity production, and restructuring should be done.

First, it is necessary to have collective businesses and individual businesses in addition to state-owned businesses. Second, it is necessary to permit livestock industry production units to engage in integrated production and marketing enterprises. Third, it is necessary to establish a main livestock industry company with a combining of production and marketing in the livestock industry from the central to the regional level, each jurisdiction also establishing corresponding bodies for the unified management of production and marketing in the livestock industry. Some comrades feel that this way of doing things offers five main advantages. 1. Unified leadership that helps closely coordinate production and marketing so that producers will be able to unify ownership of and rights of use of means of production, and allocation rights for products, and so that circulation will help advance development of production. 2. Reduction in the number of intermediate links, reduction of expenditures and waste, lowering of cost, and promotion of consumption. 3. Overcoming the wrangling over farm and livestock quarantines, and an early elimination of epidemics. 4. Equitable use of state funds to support production. 5. Solution to the problem of overlapping organizations for a conservation of manpower.

2. It is necessary to proceed from commodity production and break up the strict delineation of areas, permitting a mutual distribution and a mutual circulation between haves and have nots of livestock products among prefectures, among provinces, and among different systems of ownership. State planned regulation would be better, and where state regulation is difficult, automatic redistribution among prefectures, provinces, and among the people should be permitted with no delineation of territories or stifling controls.

3. Prices for livestock products should also proceed from the characteristics of commodity production of livestock products, with overall consideration given to the requirements of the laws of value. It is necessary, first of all, to readjust unfair elements in existing prices, the readjustment being both upward and downward. For example, prices for encouragement of the raising of hogs should be lowered, while prices for beef cattle and lean hogs should be appropriately raised. A lot of shouting has been done for many years about unfair parities, but now the time has come when solution has to be found. While looking on and doing nothing about the unfairness of parity prices, production is impaired, so how can we go on without finding a solution? Additionally, once readjustment has been made, prices should be gradually allowed to float. Within the upper and lower limits of floating prices uniformly set by the state, business units can allow fluctuations within prescribed limits on the basis of the relationship between supply and demand for livestock products. This would make things more and more lively and situations would be avoided in which people let meat products rot or go bad rather than lower the price, cutting off their own noses to spite their faces. This would help both production and consumption.

4. Change of the bureaucratic workstyle in business with practice of a system of responsibility in business.

5. Intensification of the building of communications and transportation. Everyone agrees that communications and transportation should be put ahead of

everything else. Many farm and livestock products or local specialties are produced in the farflung rural villages or in pastoral areas along the frontiers or in mountain regions, and because of poor transportation in some regions, products cannot be moved out. Large quantities accumulate, and this neither helps production nor consumption. Consequently, it is necessary to intensify the building of communications and transportation. If this is not done, these regions will vigorously develop livestock industry production only to be limited by communications and transportation, and the more they hurry the less their speed. Last year's discussion meeting raised this problem, and it was raised again this year. That this has been so demonstrates its importance.

IV. The Problem of Integration of Animal Husbandry, Industry, and Commerce

Countless facts show that unless China's livestock industry as well as (or even to a greater extent than) its farming industry changes its position of solely being a supplier of raw materials, and unless it breaks through the situation of serious split among agriculture, industry, and commerce, any fundamental change in prospects will be difficult. This is because price parities in the exchange of industrial and agricultural products are currently unfair. In addition, expenditures for the circulation of commodity livestock products are too great, making it too uneconomical for them to serve as consumption foods for the people. Since the Third Plenary Session of the 11th Party Central Committee, by following the guiding mentality of primary reliance on science in development of the farming and livestock industries, China's farming and livestock industries have gained a new vitality. However, the seriousness of use of economic methods to deprive peasants and herdsmen has not fundamentally changed, and this is also a fact that cannot be denied. this has been particularly true in the livestock industry. The commodity rate in livestock industry production is fairly large. In agricultural areas around 80 to 90 percent is commodities, and though personal consumption is somewhat greater in pastoral areas, the commodity rate is still very high, so the significance of the integration of animal husbandry, industry, and commerce is greater and benefits more remarkable. However, the reality today happens to be just the reverse, making experimentation very difficult and action more difficult. Almost all of the commodity livestock products are now in the hands of state-owned industries and businesses, so as soon as an integration of animal husbandry, industry, and commerce occurs, that will mean a fight for raw materials or a "shoving to get something to eat" against state owned industries and businesses. Commercial departments say this is "snatching away their rice bowls," and peasants and herdsmen say this is resisting the use of economic methods to deprive peasants and herdsmen, so just who is right? This requires a look at what methods can promote production, make the economy prosper, and serve the people's consumption endeavors. Without doubt, benefits from an integration of animal husbandry, industry, and commerce would be good.

Following several years of pilot projects and explorations, there is a renewed awareness that further pilot projects and practice in the ins and outs of this newly born matter of integrated animal husbandry, industrial, and commercial enterprises is fully necessary. Consequently, comrades attending the conference spoke glowingly of their necessity, their possibility, and the basic lessons of their experience.

(1.) China's goal in the integration of animal husbandry, industry, and commerce lies in changing the position of the livestock industry as a supplier of raw materials, to reduce the number of links in the circulation of livestock products, to conserve on circulation expenses, and to go on to eliminate various obstacles in the way of development of livestock industry production, arousing the enthusiasm for production of herdsmen, and making development of commodity livestock products commensurate with the pace of the building of the "four modernizations."

(2.) The mission of the farming and livestock industries is a steady wresting from nature of food and wealth to provide steadily increasing amounts of consumption goods for society. It is their end products that manifest their effectiveness in serving society, and their fundamental role in the national economy. These benefits and fundamental roles are the results of the common function of the three sectors of agriculture (including animal husbandry), industry, and commerce. They are mutually cooperative, mutually towing, mutually advancing, and mutually restrictive. Should this organic relationship suddenly be damaged or destroyed, the bonds of mutual cooperation being torn asunder, commodity production of livestock and farm products is bound to be impaired, or even decline and perish. The best way in which to maintain these bonds intact is to integrate animal husbandry, industry, and commerce.

(3.) For historical reasons, the situation of the price of farm and livestock products in China being at variance with their value has been very serious right up to the present day. The value of the labor used to produce farm and livestock products has not been able to be truly realized. This state of affairs has meant that numerous farm and livestock industry capital construction projects have frequently not made up the losses sustained in their construction. This was because what went into them was high priced industrial goods, but what they produced was low priced agricultural products. Development of integrated livestock, industrial, and commercial enterprises, and taking the path of the integration of animal husbandry, industry, and commerce would be that profits realized from sales and processing of commodity farm and livestock products would revert to the farming and livestock industry. This is not only right and proper, but is also workable in practice.

(4.) In operating integrated livestock, industrial, and commercial enterprises, it is essential that their superiority in quantity, quality, and economic effectiveness be shown to be incomparably greater than that of the previous industrial and commercial channels, otherwise they will lose their reason for being.

(5.) In both experimenting with and developing integration of animal husbandry, industry, and commerce, the main things must be commodity rates and quantity of commodities. In which ever way the commodity economy is more developed, it is in that way that integrated enterprises must inevitably have the greatest possibilities.

(6.) The integration of some livestock products will have to be done on a certain scale. When a unit's or a region's livestock products do not suffice for highly efficient, low expenditure economic benefits, commune and brigade, or county and prefecture lines will have to be broken through to set up integrated enterprises that are larger in scope. This may be done through production and marketing contracts, returns of profits to producers, or joint share operation.

(7.) The relationship of specialization and socialization to the integration of animal husbandry, industry, and commerce is mutually supportive and mutually advancing. Certainly the integration of animal husbandry, industry, and commerce is a result of and a product of specialization and socialization, it is, at the same time, also specialization itself. In places in which the degree of specialization and socialization is not high, operation of integrated animal husbandry, industrial, and commercial enterprises can promote increase in the degree of specialization and socialization. Once specialized contracting systems of responsibility and systems of responsibility linking output to calculation of remuneration have developed, some places will be able to make households specializing in the livestock raising industry a part of their integrated animal husbandry, industrial, and commercial enterprises.

(8.) Going in for grandiose projects and unnecessary frills is to be guarded against. The make-up of integrated enterprises has to be planned. Generally speaking, one thing should be done at a time, and when the situation is ripe for something, experiments should be run for that thing. When the situation does not permit "a coherent whole," then a "semi-coherent whole" will do (i.e. partial integration, with the integration of front parts or back parts).

Current difficulties in pilot projects for and developmnnt of integrated animal husbandry, industrial, and commercial enterprises. The opposition of some comrades in the commercial and public finance sectors is extraordinarily severe, and in most areas, public finance and commercial administrative sector sectors are not very positive about formation of "a coherent whole" in animal husbandry (farming), industry, and commerce. Some place the financial standpoint and the production standpoint in opposition to each other, believing that it is a "transfer of profits." Some are accustomed to doing business through the old channels, "using a knife to cut when there are too many, and using the lash to urge along when there are too few." They are neither good at using their own individual methods to link cities and countryside for the development of rural and pastoral sources of wealth, or seeking "ways to generate wealth," or "ways to amass wealth," and neither do they like allowing others to do any dealing. Some fear only that someone may snatch away their ricebowl, without realizing that when other people's ricebowls are carried away, there will also be those who go hungry. Therefore they "do not hesitate to kill the chicken to get its eggs," or "drain the pond to get the fish," and they are not willing, in the face of a new situation, to dynamically pioneer anew opportunities for themselves. Some of them take every opportunity to represent themselves as maintaining the welfare of the whole, and wherever the face of the welfare of the whole appears, it seems that only they represent the welfare of the whole. The so-called theory of transfer of profits," "theory of using the little to squeeze and out the big" and the "theory of using the indigenous to squeeze out the foreign" all stem from this.

In this connection, comrades attending the conference made the following suggestions about progarms and policies for integrated animal husbandry, industrial, and commercial enterprises.

First is to give to already designated pilot project units genuine rights to experiment. Second is that pilot project areas should be enlarged. All provinces should set up pilot project experiments for both pestoral areas and farming areas. Third, livestock products are second and third category commodities for which there should be no further practice of the method of "procuring however much is available." Second category products are to be part of the planned economy and should "be guaranteed without change for several years." Third category products are to be regulated by the market. Fourth, legislation should be passed pertaining to integrated animal husbandry, industrial, and commercial enterprises. Fifth, it was recommended that the State Council or appropriate departments affiliated with the Ministry of Agriculture should convene, at an appropriate time, a work conference on industry and commerce to study and formulate programs and policies, and to decide plans for pilot projects.

V. The Longrange Planning Problem

Delegates further explorted the importance and position of the livestock industry and formulated a foundation, goals, and basic content of longrange plans. They also stipulated that plans must proceed from the situation existing in China and be in accordance with existing capabilities. On the basis of the seeking of truth in facts and concern for economic results, emphasis was given discussion of several tactical problems of development in longrange plans for the livestock industry. These were as follows:

1. Strategy for Technical Development

Just what strategy should be practiced in the technical development of China's animal husbandry? Would it be proper to adopt traditional development strategies using the United States and the Japan of today as the developmental goals that technical development of China's livestock industry should imitate, taking the road of high investment of capital, high structuring, high possession, high energy consumption, and high output value. Would this result in high benefits? What development strategy should be adopted in view of China's national situation? Currently there are three views.

One, based on a survey of large Beijing chicken farms, holds that Beijing's several chicken farms are large in size, have great output, and profits approaching 1 million yuan; therefore, henceforth, there should be continued development of large scale mechanized and factorized raising of chickens and hogs.

A second holds that the indigenous and the foreign should be practiced at the same time, that the large, the medium, and the small should be developed simultaneously, and that a program of mechanization, semi-mechanization, and hand operation should be employed at the same time.

The third view holds that in its use of superior varieties, importation of Peruvian fish meal and Japanese ammonium nitrate to produce full value livestock feeds, and in its invitations to experts and professors in institutions of higher learning to give technical guidance, Beijing possesses material and technical advantages such as other provinces and municipalities in the country are unable to match. Therefore, the several large chicken farms in Beijing showed profits while most of the country's mechanized and semi-mechanized chicken farms were in dire straits. The livestock industry is part of the commodity economy in which use of any technical measures requires adherence to the principle of final products, and the kind of economic results as standards for judgment. These also establish estimatively the critical points and the optimums for technological investment. Therefore, advantage should now be taken of a plentiful workforce and the low value of labor to put efforts into biological technology requiring relatively small investment (superior varieties, building of grassy plains, grassy mountains, and grassy slopes, and the processing and production of balanced cattle feeds).

2. Strategy for Economic Development

The long enduring practice of the past whereby an economy owned by all the people was the only legal economic form, the collective economy was a traditional economic form, and the individual economy was a remnant of capitalism, with the adoption of measures restricting or prohibiting commune members in the raising of poultry and livestock was wrong. Henceforth, a livestock industry economy that is diversified in form should be developed; however, three different academic points of view exist as to how it should be developed.

One advocates a "primary and secondary theory," and opposes combinatorial theory, believing that public raising and private raising should be practiced simultaneously in a program whereby public raising is primary in order to strengthen the collective economy. In a socialist country such as ours with its system of ownership founded on production teams in people's communes, this method is more suited to levels of production, and there is need to guard against vacillation on both [the public and private] sides.

The second advocates systems theory and combinatorial theory, but disagrees with reticulation theory [4854 4158 6158], primary and secondary theory, substitution theory, and arbitrary uniformity. The primary and secondary theory viewpoint does not square with objective realities, Except for the numbers of cattle now being raised in pastoral areas, in terms of the country as a whole, the overwhelming source of livestock products is individual livestock raising, and the portion raised publicly has never held a "primary" position. Inference on the basis of the "primary and secondary theory" can lead to the conclusion that large amounts of manpower and financial resources should now be used to develop the public cattle raising portion until it accounts for more than half of all cattle raising. Deduction from "primary and secondary theory" places in mutual contradictory positions CCP Central Committee Document 13's decisions on "All Matters Suitable for Individual Commune Member Operation Should Be Done to the Maximum Extent Possible by Peasant Households," and the thesis of the Central Committee that China's is a socialist commodity economy with a diversified ownership structure in which public ownership predominates. Application of the viewpoint of systems theory means that the livestock industry is a system of economic control composed of the breeding system, the livestock feeding system, the quarantine system, and the procurement, storage and transportation system, and is not limited to some direct cattle raising units. Proceeding from China's current levels of productivity, even though fairly good economic results have admittedly derived from the individual and collective livestock raising industries, the economy of ownership by all the people has greater advantages in breeding, livestock feeding, quarantine, procurement, and storage and transportation. In these fields the state-owned economy should actively develop, and this development should provide active support to the individual and collective livestock feeding industries. On the basis of help to them in achieving increased output and increased earnings, all of most livestock products should be made a part of planned markets. Therefore, it is necessary to devise overall strategies for the animal husbandry economy as a whole. Assessment should not be made solely on the basis of quantity of livestock raising being done to determine who is primary and who is secondary, but rather on the principle of cooperative specialization. On the basis of the strengths and weaknesses of various economic systems and requirements in development of the objective system, making the most of advantages and downplaying of disadvantages, and an equitable division of labor should be done to bring their production potential fully into play and create greater social material wealth to achieve a balance between the haves and the have nots, each being properly provided for. In this way both the structure and the organization are made equitable, and the superior position of the system of public ownership continues to be maintained. All that is required for state and collectively owned livestock farms is a restructuring of their methods of operation to derive better macroeconomic results, and they too will be able to attain the development they should have. At the present time when there is a seller's market for most livestock products, no problems at all exist in a possible overwhelming of the state-owned and collective economy by the commune member livestock raising industry. Proceeding from this viewpoint, there should be gradual change in the different policies towards the state-owned the collective, and the individual economy in procurement prices paid and award sales standards for livestock products, all being treated equally without discrimination.

3. Strategies for Livestock Fodder Development and Use

China's strategy for development of livestock fodder should be as follows: To make full use of the abundant workforce, and use every possible means to use resources that have not yet been used to hasten the building of grasslands in pastoral areas, to develop grass covered mountains and slopes in farming areas, and to go in big for comprehensive use of agricultural sideline products to solve the problem of insufficient grass and fodder for livestock.

4. Establishment of an Integrated Economic Management System With Entrepreneural Administration That Is Both Able to Enliven the Micro-economy and Able to Strengthen Macro-planning and Management

Analysis using cybernetic theory shows the existing system of management to be an administratively centralized cybernetic system that uses administrative methods to control the economy. Within the system, departments stand independent of each other, one area is separated from another, suppliers, producers, and marketers have no face to face dealings with each other, manpower, finances, and materials are individually managed, and individual components frequently shift their problems to others. Territories are strictly staked out, and there is frequently ceaseless wrangling and interminable conflicts. In performance of work there is neither dynamism or restraint. The system can neither vigorously support peasants and herdsmen in development of production to enliven the micro-economy, nor is it able to vigorously strengthen planning and management in the macro-economy. As the economy of the livestock economy develops and diversified economic forms appear, the unsuitability of this system becomes more and more apparent. Everyone believes that longrange plans should include the issue of system reform.

Some delegates put forward the idea of an integrated economic management system that is graduated, has numerous steps, and is entreprenurially administered. They proposed a gradual change in livestock administrative organizations below the provincial and municipal levels to an entreprenural livestock company uniformly organizing within the company on the systems theory concept all breeding, livestock feed, veterinary medicine, procurement, storage and hauling, sales, funds, and materials units using the principles of contract administration and specialized cooperation for the integration of supply, production, and marketing, and of manpower, finances, and materials. Within the company, a system of hirings would supplant the appointment system, and fluctuating wages would replace fixed wages. An election system would take the place of the life tenure system; a system of responsibility would replace the eating out of a large common pot, and sole financial responsibiligy would take the place of uniform receipts and uniform expenditures.

5. Systematic and Scientific Development Strategy for Information, Consultation and Decision Making

Levels of development of China's livestock industry economy are fairly low and mistakes have been many. Though much has been invested, there has been considerable waste. One of the reasons has been no establishment of a scientific news, consultation, and decision-making system, which has resulted in mistakes on numerous occassions, and payment of substantial "study expenses."

(1) Establishment of a self-contained, accurate, information system. (2) Establishment of a consultation system that includes technology and economics. (3) Establishment of a system of responsibility for decision making. Leaders must make prudent decisions about major projects on the basis of collective study; decision makers must bear economic consequences for their decisions (bearing legal consequences for major mistakes); and they should enjoy economic benefits from correct decision-making.

6. Strengthening of Livestock Economy Research, and Doing a Good Job of Building Science and of Education.

Research on the livestock economy is gradually becoming more penetrating. Academically, discussions at this conference on five special topics were on a higher plane than last year, and numerous new situations and new problems requiring study were put forward. Additionally, numerous new sciences have begun to be introduced into studies, sciences such as macro-economics, micro-economics, eco-economics, systems engineering, and futurology.

Nevertheless, livestock economy studies have also shown themselves to be out of touch with requirements of situations, and henceforth the task should be to further systematize and make more scientific studies of the livestock industry economy, establishing as soon as possible a self-contained and independent branch of learning for livestock industry economics.

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ANHUI STATE FARMS IMPROVE ADMINISTRATION, READJUST ECONOMIC STRUCTURE

Beijing ZHONGGUO NONGMIN BAO in Chinese 11 Feb 82 p 1

[Article by Wang Peiyi [3076 1014 3015]: "Anhui State Farm and Land Reclamation System Turned Losses into Profits in 1981 Through Improvement in Administration and Management and Readjustment of Economic Structure"]

[Text] The Anhui state farm and land reclamation system, which has showed losses for the past more than 30 years, improved its administration and management in 1981 and readjusted its economic structure to make a profit of 5 million yuan.

In 1979, this province's state farm and land reclamation system converted losses into profits for the first time; however, as a result of serious flood disasters the following year, it again ran losses of more than 13 million yuan. In 1981, leaders of the provincial state farm and land reclamation system assiduously summarized the lessons of historical experience and took firmly in hand a restructuring of administration and management and economic readjustment work centered around a system of responsibility for production. The 348 agricultural production teams throughout the system set up systems of responsibility, whose main ingredients were "contracting, fixed outputs, and awards," which strengthened the sense of being masters in their own house among the farms' employees, and readjusted the economic structure within the state farm and land reclamation system. They also put to full use the abundant natural resources of barren mountains, wastelands along bodies of water, lakes, reservoirs, ditches, and ponds in vigorous development of economic diversification. Now their diversification involves 94 different items, which have increased their earnings and laid a foundation for development of integrated agricultural, industrial, and commerical enterprises.

The Anhui state farm and land reclamation system plans next year to set up nine more integrated enterprises on the foundation of eight existing agricultural, industrial, and commercial integrated enterprises; and, prior to 1983, it intends that the state-owned farms throughout the province will little by little become a part of or operate integrated enterprises, expand integration with rural communes and brigades, and build state farms with all possible speed into burgeoining enterprises with all-around development of farming, forestry, livestock raising, sideline occupations, and fisheries that carry on integrated agricultural, industrial, and commercial activities.

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BRIEFS

LISTS OF ACHIEVEMENTS--1. The province had an overall bumper harvest. The income and savings deposits of commune members broke through the highest historical levels. 2. In Huadong Prefecture, connecting tracks were laid on the important Anhui-Jiangxi railroad trunk line. 3. Big achievements were made in the construction of the Two Huai (Huainan and Huaibei) coal base. The Liuqiao coal mine, with a designed annual production capacity of 600,000 tons of coal, was completed and put into operation; the Luling coal mine, with the capacity to dress 1.8 tons of raw coal a year was completed and put into trial operation; and in the Zhunbei powerplant of the Kengkou power station, a 200,000-kilowatt generator was integrated with the power network and is producing electricity. 4. In 1981, the volume of direct export commodities reached $86 million, an increase of 1.15 times over that of the previous year and an increase of 3.5 times over than of 1979. 5. The China Sciences and Technology University basically completed the predevelopment and manufacture of the physical design and key parts for the Hefei synchronous radiation unit. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 13 Feb 82 p 4] 9727

CSO: 4007/249

BEIJING

REPORTER CALLS ATTENTION TO SUGARBEET WASTE IN HEILONGJIANG

Beijing GUANGMING RIBAO in Chinese 5 Feb 82 p 2

[Letter from staff reporter Zheng Xiaofeng [6774 4562 2800]: "The Alarming Waste of Sugarbeet Resources Should Be Stopped Immediately"]

[Text] Editorial Department:

Recently I went to the main sugarbeet-producing region of Heilongjiang Province to cover a story and saw that, in a year of great natural disasters, a bumper harvest had been reaped from the large area planted with sugarbeets and that the total output had reached the level of the high yield of the year before last.

The party's policies had promoted a high yield in agriculture, but some of our departments had artificially caused a great amount of waste in what had been harvested and was on hand. The purchasing station in Anda County, based on its self-determined "purchasing standard," compelled the peasants who were selling sugarbeets to pare off, as impurities, the green tops and outer skin of the sugarbeet nodes, and these contain a lot of sugar. By making this demand in purchasing sugarbeets, viz, paring the sugarbeet node, which weighs 1 or 2 jin, until the white flesh of the beet is exposed, at least 5 qian [1 qian = 5 grams] of a sugarbeet node is cut off. Calculating on this basis, last year Heilongjiang Province pared away one sugar refinery's output. The masses there reacted extremely strongly to this. They said, "This kind of action, which wastes and harms the state's wealth, is simply a crime."

Specialists of the Sugarbeet Research Institute of the Chinese Academy of Sciences, with extreme bitterness, did an accounting: taking the base number of 3,500 sugarbeet seedlings per mu, and an average of 5 gian being pared off each sugarbeet, 175 jin of sugarbeets were pared off 1 mu. Last year Anda County planted sugarbeets on 230,000 mu. With the paring off of 20,125 tons of a high yield of sugarbeets already in hand, calculating 85 yuan in profit per ton of sugarbeets, the county lost 1,710,625 yuan. Calculating the sugar content at 15 percent, this one county of Anda, pared away for nothing 6,037.5 tons of white sugar. Ping Yulin [7458 3768 7792], deputy director of the Sugarbeet Research Institute, said: This method of paring sugarbeets, which alarmingly damages the state's source of refined sugar, is not confined to this one county of Anda. Both Hulan and Lindian Counties had purchased according to this purchasing standard. Last year Heilongjiang Province's acreage under sugarbeets was 3,842,000 mu. Substracting the acreage which had a reduction in output owing to natural calamities, and thus calculating on the basis of 3.2 million mu, the province will lose 280,000 tons of sugarbeets, equivalent to losing for nothing 84,000 tons of white sugar. Calculating on the basis of 1,600 yuan in income per ton of white sugar, this will cause the huge loss to the state of over 130 million yuan. This is an alarmingly big waste at one stroke.

Why is it that up to now it has been impossible to stop such a huge waste in the sugarbeet purchasing process? The reason is that in some sugar refineries in the province, production techniques are backward and sugar output is low. They do not pay attention to improving the backward production techniques, but instead set their own policy of raising the purchasing standard, without regard for the great amount of waste caused to the state's resources, in a one-sided pursuit of their own sugar output rate. What is strange is: this act of seriously wasting society's wealth, which cheats the state, the collective and the peasant, receives the tacit consent of the leading departments concerned.

The specialists suggested to this reporter that he publish in a newspaper this "economic accounting," which represents a great amount of waste of the state's resources, in order to draw the attention of various quarters to the need quickly to plug this damaging and wasteful leak.

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AGRICULTURAL DEPARTMENT OFFICIAL VIEWS SPRING PLOWING SITUATION

Lanzhou GANSU RIBAO in Chinese 12 Feb 82 p 1

[Interview with Comrade of Provincial Agriculture Department by staff reporter: "Strive for Greater Agricultural Development This Year Than Last"; date and place not specified]

[Text] Recently, this reporter interviewed a responsible comrade of the provincial agricultural department with regard to the question of spring plowing and production. He said: This year we must, using all ways and means and by getting started as early as possible, strive for a greater development in agriculture than there was last year.

Question: What is the general situation in spring plowing and production in our province this year?

Answer: The situation in spring plowing and production in our province this year is fairly good. Following the further implementation of the party's policies and principles and the gradual perfection of various forms of the production responsibility system, the production enthusiasm of the broad masses of peasants is becoming greater and greater. In addition, the weather has been comparatively good. Throughout the province, 1 million mu more of overwintering crops have been planted than last year; 600,000 mu more of land was irrigated in the autumn and winter than last year; and there is close to double the amount of water stored in reservoirs than last year. In production preparations--the land plowed in the hot months and autumn and the accumulation and shipment of fertilizers and seeds--a more solid job was done than in previous years, and at present in most places the soil moisture content is better than in previous years. These are all favorable conditions for doing a good job in spring plowing and production this year. At the same time, it must be seen that some places in the central region received little rain and snow last autumn and winter so that the soil moisture content is deficient, and the supply of drinking water for people and livestock is relatively difficult. In some places in the winter wheat producing areas, because after sowing the cumulative temperature was low and the base fertilizer was insufficient, the wheat seedlings grew weakly and their tillering was deficient. All these things have an unfavorable effect on spring plowing and production in some places.

Question: In order to do a good job in this year's spring plowing and production, what questions need to be addressed?

Answer: First of all, a good job must be done in winter wheat field management. In our province, winter wheat occupies close to half the acreage as that of summer grain crops, and tightly grasping the opportune moments to do a good job in the field management of winter wheat has a great bearing on the wresting of a bumper harvest of summer grain crops this year. If there is a bumper harvest of summer grain crops, we will gain the initiative for the whole year. Every locality must organize cadres, agrotechnicians and experienced peasants to go into the field and make a general survey of the wheatfields, analyze the condition of the young plants, focus on existing problems and take appropriate management measures. At present, in the winter wheat areas the soil moisture content is generally good and the stocks of chemical fertilizers are relatively ample. Each place must tightly grasp the opportune moments before and after the thaw to apply a topdressing of chemical fertilizer so as to promote an increased production of strong sprouts. According to surveys this year, it is very possible that the wheat stem rust in southern Gansu and the (?red dwarfism) [hongaibing 4767 4253 4016] in eastern Gansu will spread to other parts of the province. Every locality must conscientiously strengthen their forecasts of plant diseases and insect pests, make good early preparations of preventive agricultural chemical equipment and do preventive work before plant diseases and insect pests appear in large numbers.

Second, under the guidance of the state plan, carry out the various planting plans in line with local conditions. The agriculture economy must give priority to planning, with market regulation made supplementary. The development of agricultural production must be carried out according to the state plan. We must educate the broad masses of peasants to consider the overall situation and the collective and, in line with the state's requirements, take into account the interests of the state, the collective and the individual and, under the guidance of the state plan, carry out planned planting. We must actively pursue economic contracts, linking the production activities of the collective and the individual commune members to the state's planned arrangements and truly complementing the state's plan. When plowing is begun throughout the province, we must, proceeding from Gansu's actual conditions, actively carry out the policy of "without slacking off on grain production, actively develop a diversified economy"; readjust the distribution of crops in line with local conditions and, while getting a tight grip on grain, actively develop economic crops like oil-bearing crops, beets, cotton, flue-aired tobacco and vegetables; and make full use of this year's advantageous conditions of plentiful irrigated land and good soil moisture content to insure that, according to plan, the planting is done well and in sufficient quantity.

Third, energetically popularize agricultural science and technology so that the land is tilled scientifically. Every locality must list the popularizing of agricultural science and technology as an important item on its daily agenda and conscientiously strengthen leadership over the work of agricultural science and technology. They must, in a planned way, organize scientific and technical personnel to get deeply involved with production and the masses, to study and solve the actual problems in agricultural production that urgently need to be solved and to resolutely change the situation in which scientific research and production are disjointed. The main effort of scientific and technical departments must be placed on doing research in applied science and on popularizing advanced techniques, so as to serve current agricultural production. They must sum up the practical experiences of the masses gathered over many years and develop the traditional farming techniques of intensive cultivation. They must vigorously recommend and popularize advanced scientific techniques that the masses will be glad to accept, that produce quick results and that bring in more income. This year, on the basis of popularizing well the 19 scientific and technical items already decided upon, they must focus on doing a good job of demonstrating and popularizing major scientific and technical achievements, which have a wide range and produce quick results, such as the widespread production of the seeds of Zhongdan No 2 corn and in 2148 wheat, the spraying of leaves with phosphoric acid phosphate 2 hydropotassium and the nonpotato virus strain of potato. They must vigorously promote the contract system for popularizing agricultural science and technology, organically combining scientific research and popularization work and insuring the popularization and application of every item of agricultural advanced science and technology.

Four, get started as early as possible on efforts to do a good job in taking precautions against or resisting natural calamities. At present, in most places in the counties of Huining, Jingyuan, Gaolan and Jingtai, the water content of the tilled layers of soil is generally less than 10 percent. Leaders at all levels in these places must pay a high degree of attention to this situation and immediately mobilize and organize the broad masses to conscientiously do a good job of taking precautions against drought during spring sowing. They must conscientiously check the soil moisture content, sowing summer grain wherever it can be sown and if the moisture content is deficient, they must not plant summer grain. They must make early preparation of autumn grain seeds, so that autumn grain will supplement summer grain. Concerned departments at the province, prefecture and county level must continue to help these places to solve the problem of providing drinking water for people and livestock. The other places must also always be on the alert and be prepared at any time to struggle against natural calamities that might occur, so that their preparedness will avert peril and they will have seized the initiative.

Five, conscientiously change the work style and earnestly strengthen concrete leadership over spring plowing and production. A large group of cadres must be organized, led by a responsible comrade, to go to the frontline of spring plowing and production to conduct protracted, constant propaganda among the broad masses of basic-level cadres and peasants with regard to upholding public ownership of land and other means of production and to practicing the production responsibility system in the collective economy. No matter what form of the production responsibility system is adopted, if the masses do not want changes then do not make changes, so that the masses will be easy in their minds and do a good job in every part of the production. A tight grip must be kept on the signing of all kinds of contracts, work exchange and mutual help of a mass nature must be developed extensively and households with difficulties must be helped to do a good job of spring plowing and sowing. During the busiest period in spring plowing, the county and commune cadres, particularly the leading cadres, must stick to their work posts, take part in production, correctly direct production and firmly overcome some bad tendencies at the basic level such as slack and weak work, nobody being responsible for a piece of work and being absent at will from one's work post without permission. All trades and professions must vigorously support spring plowing and production, insuring in all aspects the completion of the tasks of spring plowing and production.

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EFFORTS TO INCREASE QUANTITIES, KINDS OF CHEMICAL FERTILIZERS REPORTED

Proper Kinds, Use of Chemical Fertilizer

Guangzhou NANFANG RIBAO in Chinese 12 Feb 82 p 2

[Article by Lin Guoxiong [2651 0948 7160], Special Correspondent]

[Text] In speaking about problems in the extension of agricultural research and techniques in the government work report he made to the Fourth Session of the Fifth National People's Congress, Premier Zhao Ziyang hoped that a change in chemical fertilizer composition and sensible fertilization could produce more outstanding accomplishments within a relatively short period of time. This hope also has great pertinence for Guangdong Province, and should be diligently studies for a solution.

At the present time, two conspicuous problems exist in Guangdong Province's chemical fertilizer production, supply, and utilization.

First is an inequitable composition of chemical fertilizer in which the proportions of nitrogen, phosphate and potash are not in balance. There are 60 large and small nitrogenous fertilizer plants in the province with an annual production capacity of 2.9 million tons, and 37 phosphate fertilizer plants with an annual production capacity of 1.1 million tons (though actual output does not reach designed capacity), but there is not a single potash fertilizer plant, nor is there a plant that produces compound nitrogen, phosphate, and potash fertilizer. Most of the fertilizer dispense by the central government and that imported by the province is nitrogenous fertilizer, and this further accentuates the proportional imbalance among nitrogen, phosphate, and potash. In 1980, for example, quantity of chemical fertilizer used in the province was 3.82 million tons, of which the ratio of nitrogen, phosphate, and potash was 1:0.23:0.088. Not much change has taken place in these ratios during the last 2 years. Clearly this cannot meet the physiological growth requirements of farm crops inasmuch as the ratio of requirements for nitrogen, phosphate and potash for most farm crops is 1:0.5:1.

Second is the serious waste and loss through runoff of chemical fertilizer, making for a not very high utilization rate. Measurements made by agricultrual science units show the utilization rate of chemical nitrogenous fertilizer (absorption by crops) to be only between 35 and 50 percent, of phosphate fertilizer 10 to 25 percent, and of potash 30 to 60 percent. Research data show that in foreign countries generally 1 jin of chemical fertilizer can increase grain output by 5 jin, while in Guangdong Province the average increase is only slightly more than 2 jin. The main reasons for the low chemical fertilizer utilization rate are: first, poor packaging, storage and transportation, which causes nitrogenous fertilizer to volatilize. Second is faulty methods of putting down fertilizer causing surface runoff. Thid is ground percolation. In gravelly, porous fields, in particular, loss is greatest. Fourth is dissipation into the air of free state nitrogen (N_2). Temperatures are high in Guangdong Province, and when ammonium-state nitrogen is spread on the soil surface, particularly on alkaline soil, it will gradually liberate ammonia, which volatilizes.

This demonstrates that the utilization potential for chemical fertilizer is very great. Currently Guangdong Province annually uses more than 3 million tons of chemical fertilizer. Were the utilization rate for chemical fertilizer to be raised by 20 or 30 percent, that would equal between 600,000 and 900,000 tons of chemical fertilizer, producing an increase in grain output of between 2.4 billion and 3.6 billion jin, figuring a grain output of 2 jin per jin of chemical fertilizer, and making for extremely impressive economic benefits. Therefore, it is suggested that the following actions be taken:

(1) Gradual restructuring of the composition of chemical fertilizer to increase the phosphate and potash content. In order to change the imbalanced ratio of nitrogen, phosphate, and potash, in addition to running existing nitrogenous fertilizer plants well to upgrade quality and increase quantity, packaging, storage, and transportation should be improved to reduce losses insofar as possible. Existing phsophate fertilizer plants in the province should think of every way possible to increase output of phosphate fertilizer. Because of a lack of sea transportation capacity the Zhanjiang Phosphate Fertilizer Plant, the plant in the province with maximum phosphate fertilizer output, amounting to 250,000 tons annually, loses several tens of thousand tons to other provinces. It is recommended that the province's shipping sector increase the number of ships transporting phosphate fertilizer, and institute transportation on certain ships over certain routes to prevent further phosphate fertilizer from slipping away to other provinces. In future imports of chemical fertilizer, quantities of phosphate and potash should be increased.

(2) It is recommended that chemical fertilizer and organic fertilizer be used in combination. Organic fertilizers such as much fertilizer, barnyard manure, and green manure are sticky in nature. By using them in combination with chemical fertilizer, they will wash away less readily and the supply of nutrients will be evely balanced, and not only will increased yields derive from the immediate crop, but soil will be improved as well. When the phosphate and potash mixed in with organic fertilizer is fully composted for use as a base fertilizer, the effectiveness of the fertilizer is greatly increased.

(3) Scientific use of fertilizer. First of all, nitrogenous phosphate and potash fertilizers should be properly mixed and a change made in overfertilization with nitrogenous fertilizer, which leads to spindling of stems and leaves, disease and insect pest infestations, and lodging. Secondly, in light of the numerous paddy fields and large quantity of rainfall in Gunagdong Province, the scatter method of applying fertilizer must be resolutely reformed, and the deep layer application method promoted in order to reduce the volatilization and runoff of chemical fertilizer.

(4) Strengthening of technical guidance so that fertilization will be done in the right amounts at the right time. Now that the rural villages of the province have universally instituted various forms of a system of responsibility for production, the peasants urgently require a strengthening of guidance in agricultural techniques. We must adapt to these circumstances and vigorously promote methods for the scientific use of fertilizer, increase the utilization rate of fertilizer, and obtain benefits in greater output and greater earnings.

Readjusted Small Plants

Guangzhou NANFANG RIBAO in Chinese 9 Feb 82 p 1

[Text] Readjustment of Guangdong Province's small nitrogenous fertilizer industry, diligent reorganization of enterprises, and restructuring of technology has brought fine economic benefits. Not only has there been no decline in nitrogenous fertilizer production by small plants, but expenditures have also dropped, the number of profitable plants has increased, and the number of non-profitable plants decreased.

Guangdong's small nitrogenous fertilizer industry got its start in 1961 and had 86 plants by 1981, providing a total of 5.47 million tons of nitrogenous fertilizer for agriculture. On the basis of output in 1978, small nitrogenous fertilizer plants provided Guangdong Province's agriculture with 23.8 kilograms of nitrogenous fertilizer per mu of cultivated land. Thus it provided agriculture 80.6 percent of the total amoung of nitrogenous fertilizer produced in the province, fully demonstrating the important role of small nitrogenous fertilizer plants in supporting agriculture. However, in the building of a small nitrogenous fertilizer industry, some problems also existed. There were too many individual plants; the scale was too large; facilities were insufficiently balanced or insufficiently equipped, and economic benefits were rather poor.

In view of the above situation, those in charge of the chemical fertilizer industry in Guangdong Province began in 1979 to act on the principle of "reorganization and upgrading, selective restructuring, and gradual readjustment with no further new sites," to carry out a reorganization and restructuring of various kinds in the province's small nitrogenous fertilizer plants. In the case of small nitrogenous fertilizer plants not having the objective conditions needed to produce, and those for which it would be difficult to change a loss situation, closing, merging, suspending and retooling was done. Between 1979 and 1981, readjustment resulting in the closing and suspension of 37 small nitrogenous fertilizer plants was done, thereby enabling a concentration of funds and energy so that other small nitrogenous fertilizer plants possessing fairly good objective conditions could operate well. For those small nitrogenous fertilizer plants retained, emphasis was placed on conservation of energy, reduction of expenditures, and converting losses into profits in a diligent reorganization, improvement of administration and management, and increase in economic benefits. At the same time, some small nitrogenous fertilizer plants possessing fairly good objective conditions and having fairly high economic benefits were selected for technical upgrading and appropriate expansion of the scale of production, turning them into maninstay small nitrogenous fertilizer plants. After 3 years of efforts, the province now has 19 small nitrogenous fertilizer plants with an annual capacity to produce syntehtic ammonia that has grown from between 3,000 and 5,000 tons to between 5,000 and more than 10,000 tons. Though readjustment during the past 3 years has resulted in the closing or suspension of some plants, the province's output from small nitrogenous fertilizer plants is still higher than 1978 production levels. In addition, quality of nitrogenous fertilizer has improved, and energy consumption has dropped. Statistics show that in 1978, only 68 percent of the ammonium carbonate used for the small nitrogenous fertilizer industry was first quality while in 1981 the percentage had risen to 81. Coal consumption per ton of synthetic ammonia produced for the small nitrogenous fertilizer industry was somewhat more than 3,300 kilograms in 1978. In 1981, consumption declined to somewhat more than 2,500 kilograms. Electricity consumption per ton of ammonia was slightly more than 1,700 kilowatt hours in 1978, but in 1981 it fell to slightly more than 1,500 kilowatt hours. As a result of the decline in consumption for the three years 1979 to 1981 alone, the industry saved the country 316,000 tons of coal, and 80 million kilowatt hours of electricity. Furthermore, as a result of the past 3 years of reorganization and restructuring, the number of profitable plants in the industry has increased and the number of unprofitable plants decreased. The small nitrogenous fertilizer plants in Foshan Prefecture and Meixian Prefecture have turned all their losses into profits.

Increased Use of Potash

Guangzhou NANFANG RIBAO in Chinese 4 Feb 82 p 2

[Text] Guangdong Province's agricultural production has made new progress in promotion of potash fertilizer for use. In 1981, 15 million mu of the province's cropland used potash fertilizer. This was a 5 million mu increase over 1980, and generally increased yields were produced. Surveys done in Meixian, Kaiping, Huiyang, Zengcheng, and Dongguan counties showed that when potash fertilizer was applied to potash deficient soil, paddy rice yields increased by from 10 to 30 percent, and varying degrees of increase in yields also occurred for sugarcane, peanuts, sweet potatoes, and jute.

Potash fertilizer is one of the "three main elements" in fertilizer that is indispensable to crop growth. Guangdong Province has high temperatures and much rainfall, and weathering and leaching are strong. This plus the universal promotion of the growing of high yield varieties, of steady increases in the multiple cropping index and levels of output has meant an ever increasing depletion of potash in the soil. However, for a long time fertilization with nitrogenous and phosphate fertilizer has steadily increased in the province, while fertilization with phosphate has been extremely limited. This has produced an increasingly serious lack of phosphate in the soil, which has impaired increased crop yields. In light of this situation, in recent years every prefecture in the province has linked soil surveys to diligent experiments in the use of potash fertilizer, and they have also done demonstrations and conducted propaganda promotion. In 1981, quite a few places made use of potash fertilizer a major action for increasing agricultural yields. In 1981 Huiyang County put together 1,080 tons of phosphate fertilizer for use on an area of 130,000 mu for an average of between 15 and 30 jin of potash per mu, which produced very clear increases in yields. In 1981, Chenjiang Commune in this county used potash on an area of more than 3,200 mu or 70 percent of its paddyfield area. Despite serious disasters, paddy yields averaged increases of slightly more than 60 jin per mu over 1980. At Jinji Commune in Luoding County, the soil was seriously deficient in potash causing widespread outbreaks of leafspot of rice. For the 1981 late crop, the commune summarized the experiences of individual peasant households in gaining increased yields from the early crop through increased fertilization with potash fertilizer. The entire commune promoted fertilization with potash over wide areas, covering an area of 10,000 mu. As a result, incidence of leafspot was greatly reduced in a year of great disasters, the commune's late crop brought in a 200,000 jin increase in paddy over 1980.

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CSO: 4007/238

OVER 80,000 FARM MECHANICS GIVEN TRAINING

Guangzhou NANFANG RIBAO in Chinese 5 Feb 82 p 1

[Article: "More than 80,000 Farm Mechanics Trained In Province in 1981"]

[Text] Last year farm machine units and farm machine schools at all levels in the province used diverse methods to train more than 80,300 mechanics for farm machines of different kinds, making a contribution in promoting development of farm machine endeavors.

In the wake of establishment of various forms of rural system of responsibility for production, the number of tractors used in farming by collections of individual peasant households has steadily increased, and numerous peasants urgently need to increase their knowledge of farm machine mechanics. In order to meet this new situation, farm machine units and farm machine schools at all levels used a combination of surrogate teaching, group teaching, and schools and communes (and plants), as well as teachers sent out to train mechanics for communes and brigades. Inasmuch as Shunde County has many economic crops, and many motorized boats, and since commune and brigade enterprises there have developed fairly rapidly, the Shunde County Farm Machine School also trained commune and brigade electricians, diesel power generator unit managers, farm electricity managers, boiler operators, turbine operators, motorized boat drivers and mechanics. As a result of the steady increase in motor vehicles used in agriculture, the farm machine schools in some counties also took responsibility for training drivers for farm vehicles.

Guangdong Province's farm machine training network has now been substantially completed. The province, prefectures, and counties have farm machine schools, and most communes also have certain training capabilities.

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CSO": 4007/238

BRIEFS

GUANGDONG AFFORESTATION EFFORTS--Last year the Tongshi reclamation area in Guangdong Province planted 22,500 mu of shelter forests and economic forests and grew more than 12 million saplings. As of the present time, the reclamation area has afforested a total of 252 million mu. Last year, the Tongshi reclamation area instituted a general system of responsibility in forestry whereby it contracted plantings, survival, and care to increase the survival rate of trees that had been planted. Early last year, Longjiang Farm planned the land to be afforested and set up a special afforestation corps, with individuals being assigned duties. Once a tract had been planted, an individual was designated responsible for taking care of it to ensure survival of afforested areas. Last year, the farm planted more than 2,300 mu of shelter forests with a survival rate of 95 percent. All farms also layed out an equitable distribution of trees, planting in the designated areas Casuarina equiselifolia, Eucalyptus parvifolia, Eucalyptus rubusta, and Taiwan Acacia confusa as shelter forests, while at the same time vigorously afforesting economic forests as well. The state-owned Xinjin Farm treated afforestation as an important task, devoting great attention to it, and preserving each mu planted. Over the years, Nanmao Farm has afforested 1,000 mu of economic forests. The Eucalyptus citriodora that have been planted can be used not only for roof purlins, but each tree can annually provide about 2 jin of Eucalyptus citriodora oil, providing an income of more than 930 yuan per mu. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 11 Feb 82 p 1] 9432

CSO: 4007/227

BRIEFS

RECORD LAMB PRODUCTION--Since the 3rd Plenum of the CCP Central Committee, lamb production in Hebei Province has expanded by a fairly large amount every year for 2 consecutive years. In 1980, the numbers of lamb in inventory in the province were 8.1486 million head, the numbers removed from inventory were 1.7486 million; both figures were the highest in provincial history. In 1981, the numbers remaining in and removed from the provincial inventory further expanded; they reached 8.4233 million head and 2.4353 million head respectively, an increase of 3.4 percent and 39.3 percent over 1980. [Excerpt] [Shijiazhuang HEBEI RIBAO in Chinese 19 Mar 82 p 2]

FAT HOG INVENTORY REMOVAL RATE--In recent years, the rate of fat hogs being removed from inventory in Hebei Province has continuously increased, as have the numbers of head removed from inventory. According to statistics, the fat hog removal rate from inventory in 1979 in Hebei was 54.3 percent and the numbers of fat hogs removed from the inventory were 6.767 million, the highest level in the province's history. In 1980, fat hog removal rate from inventory was 52.4 percent and the numbers removed were 7.089 million head; although the rate of removal decreased somewhat, the numbers of head removed increased by 4.6 percent, still a historical record for the province. In 1981, the rate of removal reached 57.6 percent, a large increased over 1980; numbers of head removed reached 7.454 million, an increase of 364,000 head over 1980, reaching the highest levels in the province's history for 3 consecutive years. [Excerpt] [Shijiazhuang HEBEI RIBAO in Chinese 19 Mar 82 p 2]

CSO: 4007/374

HEILONGJIANG

BRIEFS

OIL-BEARING CROP PROCESSING--Last year the grain departments throughout the province processed 170 million jin of small oil-bearing crops, setting for our province a new record in this respect. Both the amount processed and the amount of oil produced were raised by 1.6 times as compared with those of 1980. In order to expand the capacity of oil-bearing crop processing, the provincial grain bureau renovated some older factories and allocated 110 pieces of special-purpose equipment, which were installed and put into operation that year and which produced results that could be seen in the same year. For the whole year, the income from processing equaled over 2 times the total investment. The grain administration bureaus in Nenjiang and Huankua, the key oil-bearing crop-producing areas, also formed technical teams that went from factory to factory providing technical guidance and timely solving key production problems, so that the amount of crops being processed continually increased and the oil-extraction rate continually rose. The average oil-extraction rate for the whole year rose 1.71 percent over the state's prescribed standard, and the oil produced for the year increased by 414 million jin, with a value of over 9 million yuan. Oil-bearing crop processing factories throughout the province have widely popularized the method of using sunflower seed casings to replace raw coal in firing boilers, so that there is no need to use raw coal in processing sunflowers, thus saving for the whole year a total of 28,000 tons of raw coal. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 8 Feb 82 p 1] 9727

CSO: 4007/249

BRIEFS

ACHIEVEMENTS FOR 1981--1. An overall bumper agricultural harvest was reaped, with a total grain output of 18.34 billion jin and a total oil-bearing crop output of 650 million jin, respectively 7 and 23 percent higher than for the bumper harvest year of 1980, both breaking the previous highest historical levels. 2. A key commodity grain base, Lishu County, on a per capita basis sold over 1,400 jin of commodity grain to the state, and was for the agricultural population of the whole country one of the counties that sold per capita the most commodity grain to the state. 3. The Jilin Chemical Industry Company, getting a tight grip on enterprise reorganization, obtained outstanding economic results. Last year, it overfulfilled ahead of schedule the state plan by 33.2 percent, fulfilling its profit plan. 4. The successful research of technique and equipment by the Jilin Finance and Trade Academy for the manufacture of protein meat from soybean plants has been adopted by over 100 factories in the county, which are now supplying the people with this nutritious food, which is of high quality and low price. 5. With regard to "Jilin's three jewels," which are famous at home and abroad, the amounts of ginseng and pilose antlers purchased respectively increased by 40 percent and over 4 percent over the amounts in the historically highest year of 1980. The amount of sable skin purchased also increased. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 13 Feb 82 p 4]
9727

CSO: 4007/249

COTTON GROWING EXPERIMENTS USING PLASTIC SHEET MULCH

Shenyang LIAONING RIBAO in Chinese 31 Jan 82 p 1

[Article: "Remarkable Results from Large Area Experiments Using Plastic Sheet Mulch in Cotton Fields Through Cooperation By Provincial Cotton and Hemp Research Institute, and the Chaoyang, Jinzhou, and Liaoyang Science Commissions"]

> [Editor's Note: More than 2,700 mu of experimental cottonfields have produced ginned cotton yields of from 123 to 172 jin per mu, an increase of 50 to 65 jin per mu as compared with direct sowing, for a between 45 and 113 percent rate of increased yields, opening a new road in the advancement of Liaoning Province's cotton production.]

In 1981 the Provincial Cotton and Hemp Research Institute formed a cooperative team with the science commissions of Chaoyang, Jinzhou, and Liaoyang to conduct large area experiments using plastic sheet mulch in cotton fields in 11 test-site brigades, two communes, and one county, which won outstanding results. From the more than 2,700 mu of cottonfields where plastic sheet mulch was used, yields of ginned cotton ranged from 123 to 172 jin per mu, an increase of from 50 to 65 jin per mu as compared with directly seeded cottonfields, and a rate of increased yields ranging from 45 to 113 percent. From more than 2,400 mu of plastic sheet mulched cotton fields in the Kharchin Leftwing Mongolian Nationality Autonomous County, where rarely encountered high temperatures and draught, ginned cotton yields averaged 123.7 jin per mu, a 65.5 jin per mu increase over ordinary production fields. This pioneering experiment for the purpose of promoting development of cotton production in Liaoning Province paved a new road toward becoming a province that come closer in reaching the goal of producing 100 jin ginned cotton.

The research not only further affirmed the effects of plastic mulch in increasing yields, but also clarified the nature of increased yield effects. From the plastic mulch farming, "three improvements" in cottonfield ecological conditions were introduced, thereby bringing about "three breakthroughs" in cotton farming. The "three improvements" were: First, improvement in the ground temperature conditions in the layer to which seeds are sown and the layer where roots form. Second, improvement in distribution of soil moisture in the cultivated layer, thereby solving the contradiction in the province's cotton growing region between spring drought and the sowing of seeds and protection of seedlings. Third, improvement in soil structure and the chemical properties and light and heat effects in the cultivated layer, creating fine material conditions for promotion of cotton plant growth and development both above and below ground. "The three breakthroughs" were: First, a partial breakthrough in ecological conditions for cotton. Mulched cotton fields had an increase of from 250 to 300 degrees of accumulated heat during the entire growing season as compared with directly sown fields, which solved, to a certain degree, the problem of low spring temperatures, slow growth of young seedlings, and danger from early frost late in the growing season. The growing season was lengthened relatively by from 9 to 15 days, climate resources thereby being made full use of for extremely remarkable results in increased yields. Second was a breakthrough in the progress of cotton growth. After plastic sheet mulch was used for culturing, the progress of cotton growth saw the emergence of seedlings around 5 May, squaring around 5 June, blossoming around 5 July, boll opening around 5 September to lay a foundation for early ripening, high yields, and fine quality cotton. Third was a breakthrough in yields per unit of area. Both the tremendous increase in yields and the degree of consistency from plastic sheet mulch cotton fields was unprecedented. Not only was there a great breakthrough in output from plastic mulch cotton, but the number of flowers before the arrival of frost increased, fibers lengthened, the ginning outturn rate increased, strength increased, and quality improved.

9432
CSO: 4007/215

FOOD INDUSTRY DEVELOPMENT URGED

Shenyang LIAONING RIBAO in Chinese 17 Jan 82 p 2

[Editorial: Rapidly Develop the Food Industry"]

[Text] "The people regard food as paradise." The food industry occupies an extremely important position in the lives of the people and the economy of the country. The stability of the nation, the prosperity of the economy, improvement in the life of the people, and the flourishing of tourism all require accelerated development of the food industry.

Since the founding of the People's Republic, the food industry in Liaoning Province has seen considerable development. It already has 18 different industries devoted to the processing of rice and other grain, producing edible oils, reproduction made from the processing of rice and other grains, salt manufacture, sugar refining, making of cigarettes, canned goods, wine making, candies and pastries, condiments, milk products, starch, meat and poultry products, bean products, products made from the processing of vegetables, beverages, edible fungi, flavorings and spices to form a definite foundation and strength for the food industry. However, in terms of the needs of people's livelihoods, demands are still not being met, and quite a gap still exist in comparison with advanced regions of the country. Currently quantities of some food products are inadequate with supply not meeting demand. Products made from beans, name brand fine white wine, and beer in particular, and already popularized supplementary foodstuffs such as soy sauce, vinegar, bean sauce, and pickled vegetables have yet to be supplied widely in rural villages. For a long time children's foods have stagnated in the manufacture of sweetened rice flour powder. Convenience foods universally needed by people, and curative foods still constitute a gap requiring filling. Quality of candies and pastries is not high, and varieties and colors are monotonous, packaging is not done with much taste. Quite a few comrades bring back vermicelli and pastries when they return from trips elsewhere, does this not show that the food industry in this province should rouse itself to catch up?

Liaoning Province possesses numerous advantageous conditions for development of a food industry. Its farm livestock, sideline occupation, and fishery resources are fairly abundant, and the southern and western regions produce

produce fruits, while in eastern and northern mountainous regions, wildlife resources proliferate. The province has a long coastline, and aquatic product resources are also abundant. At the present time, however, these resources are not being fully developed and used. It should also be realized that even though food production in the province is fairly weak, capabilities for development are great; from fermenting techniques to machine processing, and chemical treatment of foods, and large, medium, and small-scale enterprises have been linked together to form a food industry system. There are more than 10 comprehensive and specialized food science research organizations, and results of research appear steadily. If only we will make the most of strengths and make up for weaknesses, rapid development of the food industry is entirely possible.

Requiring solution now is an increase in understanding of the importance of the food industry. The notion that food is nothing but a small matter of eating and drinking and that the heavens will not collapse if no special attention is given to it is mistaken in the extreme. It should be realized that investment required is small, results are rapid and benefits great in the food industry, that it is closely bound up with the lives of the people, and it positively cannot be disregarded. Inasmuch as there are numerous kinds of food industries and numerous trades, and since it cuts across numerous kinds of food industries and numerous trades, and since it cuts across numerous sectors, all jurisdictions should rapidly set up food industry societies to prepare and organize, to make overall plans, and to take responsibility for overall situation. A policy of "unified planning with multiple company managing and push forward combined enterprise" should be adopted. Now is the time for investigation and study to get an understanding of basics and, on the basis of the region's resources and advantages, to set clearly the direction and emphasis for development of the food industry. Looked at the province as a whole, convenience foods, children's foods, beer, beverages, products made from beans, condiments, candies and pastries, famous brand distilled spirits, and curative foods should be the products emphasized for development. All jurisdictions should also give attention to research and readjustment to economic policies that are favorable to the development of the food industry in order to give the food industry more support and financial assistance.

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RECORD COMMODITY SUPPLY--A remarkable increase has taken place in commodities supplied to markets by Liaoning Province's agriculture and light industries, which has strengthened the material foundation of markets. This is a major indicator of the province's economonic development. Last year, the province's agriculture provided markets with agricultural and sideline products with a total value of 3 billion yuan, a more than 50 percent increase over 1980. Products included soybeans, peanuts, fresh fruits, vegetables, the procurement quantities of which increased greatly. Supplies of goods provided markets by the light and textile industries had a value of almost 6 billion yuan, a 7 percent increase over 1980. This included a general increase in products needed in the daily lives of the people. Supply of small commodities and articles used by minority nationalities also improved. There were almost 10,000 designs, colors, sizes, and varieties of goods, and 128 products that are regarded nationally or within the province as fine quality name brands. Increase also occurred in goods brought in from other provinces and goods received through imports. Total output of products supplied to markets exceeded the all-time high to lay a foundation for stabilization of the market and satisfying holiday market requirements. [Text] [Shenyang LIAONING RIBAO in Chinese 7 Jan 82 p 1] 9432

CSO: 4007/215

RECORD HIGH FOR LOAN REPAYMENT ESTABLISHED

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Feb 82 p 2

[Article by Pan Mengyang [3382 1125 7122]: "Ningxia Hui, Han Commune Members Enthusiastically Repay Agricultural Loans: The 1981 Agricultural Loan Repayment Rate Sets Record of 112 Percent"]

[Text] In Ningxia the broad Hui and Han commune members and commune-brigades collectives took the initiative in going to the banks and credit cooperatives to repay agricultural loans totaling over 53.7 million yuan. The agricultural loan repayment rate reached 112 percent, 21 percent higher than last year and a new historical record.

In 1981, Ningxia released 47,850,000 yuan in agricultural loans and recovered 53,710,000 yuan. This reverses the trend of many years in which agricultural loans were issued slowly, in short supply and with unsatisfactory results. This is an entirely new situation in which agricultural loans are issued quickly, are in adequate supply, produce good results and have a quick rate of return. Fifteen of the 18 municipalities and counties achieved a balance in loan recovery in 1981. This was especially true for five counties in Guyuan Prefecture which had been so poor and backward. Last year, the grain crops had reduced production because of drought, so the broad commune members used loans to develop diversified economy, provided for themselves through production and increased their income. They were very grateful to the party and the state and took the initiative in using their income to repay the loans. This prefecture had a repayment rate of 121 percent. The Hui nationality area of Jingyuan County had a repayment rate of 158 percent. Some commune members shook hands with the loan office personnel saying: "If it were not for the loans which enabled us to purchase draft animals and seeds and to improve diversified economy we could never have made so much money. The first thing to do with this money is to repay the state."

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CSO: 4007/231

BRIEFS

EARLY RELEASE OF AGRICULTURAL LOAN--In order to solve the problem of communes, brigades, and commune members and masses' insufficient funds during spring plowing and production, and in order to plant enough autumn grain and oil-bearing crops to ensure a bumper harvest in agriculture in 1982, the provincial agricultural bank and grain department recently studied and decided to release early the 1982 autumn grain and oil-bearing crop loan for advance purchase deposits of 22.18 million yuan. This is to meet the needs of changes in the rural area production responsibility system. For those production brigades that have already contracted production or work tasks to individual households (groups), contracts must be signed by the households (groups) at the time the loan is released. In order to integrate the release of this loan for advance purchase of grain and oil-bearing crops with the past debts (with the exception of the deposits for advance purchase of wheat last autumn), all areas must carry out well ideological and political work, conscientiously advance further the clearance of past debts, collect those that can be collected, exchange [zhuan huan 6567/2255] [reissue] loan notes for those that cannot be collected temporarily, implement the task of recovering debts and make maximum use of the loan for advance purchase deposits. [Excerpt] [Taiyuan SHANXI RIBAO in Chinese 18 Mar 82 p 2]

GRAIN OUTPUT BUMPER HARVEST--Shanxi Province's total grain output in 1981 was 14.5 billion jin, an increase of 800 million jin or 5.7 percent over 1980. This was the 3rd bumper harvest year since the establishment of the PRC, following those of 1975 and 1979. Of the total grain output, wheat output increased 8.6 million jin over 1980. The autumn grain base output remained the same as 1980's. Oil-bearing crop output in the province was 242 million jin, a decrease of about 9.5 percent compared to the bumper harvest of 1980, which was the highest-yielding year in the province's history. This oil-bearing crop output is the 2nd bumper harvest year since the establishment of the PRC. Sugar beet output in the province was 321 million jin, an increase of 37 percent over the 1980 output. This was the highest level of the province's sugar beet output. This was the highest level of the province's sugar beet output. Tobacco leaf output was 6.48 million jin, twice the 1980 output. As for cotton output, it decreased by 19.4 percent compared to 1980 due to a spring drought and much precipitation in the autumn. At present, rural areas in the entire province are intensifying their preparation for spring plowing in order to achieve an even greater result in agriculture this year. [Excerpt] [Taiyuan SHANXI RIBAO in Chinese 18 Mar 82 p 1]

CSO: 4007/377

BRIEFS

ACHIEVEMENTS IN AGRICULTURE, OTHER FIELDS--1. Encountering a flood situation, the likes of which had not been seen in 100 years, agriculture's total output value still increased by 3 percent above that of 1980, history's highest level, among which grain output increased 600 million jin and oil-bearing crop seeds increased over 260 million jin. 2. Over the whole year, 32.5 million pigs were removed from inventory, 19 million pigs were sold to the state and at the end of the year 51.6 million pigs remained in inventory. These three items were among the best in the country. 3. Our country's first high-flux experimental reactor was completed in Sichuan and is operating well. It provides our country with an important medium for developing its atomic energy industry. 4. Chongqing municipality completed the large overhead passenger cableway across the Jialing River. The cableway can transport 1,300 passengers an hour. 5. In Chengdu, our country's largest and best equipped natatorium was completed. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 13 Feb 82 p 4] 9727

CSO: 4007/249

PROMOTION OF SCIENTIFIC FARMING AT GRASSROOTS LEVEL PUSHED

Kunming YUNNAN RIBAO in Chinese 2 Feb 82 p 2

[Article by Li Daoping [2621 6670 1627]: "Use of Diverse Methods to Promote Agricultural Science and Technology"]

[Text] Jinggu Commune in Jinggu County is a commune in a semimountainous area that grows both grain and tea. In 1981, the commune's grain output totaled 10 percent more than during the previous year, and quantity of tea procured was 20 percent more than during the previous year. Aside from its implementation of policies and the fine weather, the reason for Jinggu Commune's harvest of bumper crops of both grain and tea lay in promotion of agricultural science and technology. In 1981, this commune did the following in the way of introducing and promoting agricultural techniques.

1. It set up science and technology households. Scientists and technicians selected from among Jinggu, Tuanshan, and Yunpan brigades several commune members who believed in science and who had experience in production. After gaining their agreement, these were designated science and technology households with responsibilities for promotion of advanced technical experiments and demonstrating subjects. Following a period of technical training, the 98 science and technology households in the three production brigades assumed responsibility in conjunction with farm scientists for experimental projects in the introduction of superior varieties of rice, tea, and wheat, with startling results. Commune member Ji Wenxue [4764 2429 1331] of Tuanshan brigade was responsible for the introduction of experiments on a new variety of glutinous paddy, his 0.7 mu producing 640 jin of glutinous paddy. Ji Wenxue said happily, "I want to be a science and technology household again next year to promote more new techniques and new superior varieties here."

2. It launched consultation services. In order to do a good job of farming on fields for which production had been contracted, commune members frequently sought the advice of farm scientists on agricultural science and technology. The commune farm science station set up a special consulting service project, and any commune member who came to its doors seeking instruction was given an answer on the spot. At the place that sold pesticide in the supply and marketing cooperative, farm scientists Li Dayun [2621 1129 7189] taught commune members how to mix and use pesticides. During the year, the farm science station answered questions for 1,000 people. For commune members who were still unable

to understand techniques after having been given an explanation on the spot, the farm science station wrote out a "prescription," writing on a piece of paper in everyday language a detailed explanation to the question that the commune member had asked. Another method the consultative service used was to go to households and give practical help to commune members in solving difficulties with technology.

3. It promoted systems of responsibility linking science and technology to output. Last year, the technicians and commune members of six households in this commune signed a farming contract for a bumper rice harvest following the wheat harvest, and the technicians signed a contract with 11 commune member households for the specified growing of corn and wheat. Results of these agreements were that, except for one household that diverted to another field the fertilizer that the farm science station had invested in a field linked to output and another household that suffered a reduced output because it omitted to use insect spray, the other 12 households had increases in output, and three households maintained the outputs that they formerly had had. Both the farm science personnel and the commune members benefited. Now more commune members have entered into agreements with the farm science station for growing of bumper harvest of rape and bumper harvests of early millet.

While promoting agricultural science and technology, Jinggu Commune also attended to science popularization and propaganda work. They used blackboard newspapers, charts, propagandizing on the streets, and the running of training classes to introduce general knowledge of agricultural science to the masses, and to train a group of mainstay science and technology cadres. Now the commune has more than 160 mainstay science and technology cadres, all of whom have mastered a certain amount of knowledge about agricultural science, who are the commune's leaders in scientific farming.

9432
CSO: 4007/227

MEETINGS ON AGRICULTURAL PRODUCTION RESPONSIBILITY SYSTEM HELD IN KUNMING

Kunming YUNNAN RIBAO in Chinese 12 Dec 81 p 1

[Article by Yu Zhi [3768 6347]: "National Agricultural Production Responsibility System Discussion Meeting Held in Kunming"]

[Text] A national meeting to discuss problems on agricultural production responsibility system was held in Kunming on 9 December.

This discussion meeting was jointly convened by the Institute of Agricultural Economics of the Chinese Academy of Social Sciences and the Yunnan Provincial Academy of Social Sciences. Participants in the meeting were experts, scholars and comrades in positions of responsibility and doing practical work from the Chinese Academy of Social Sciences and affiliated units, and from all province, municipalities and autonomous regions totaling 110 persons.

The main purpose of this meeting was to study and explore the new situations and new problems that had arisen following the practice in rural areas of a system of responsibility for production. This included matters such as problems in the evaluation of the system of fixing output quotas for individual households and assigning households full responsibility for task completion; how to accurately understand and grasp the problems of both collective management and the contract system and the problem of combining collective management with the contract system; how to correctly evaluate new collective economy of different forms through peasants' initiative and its problems in the development and future; and how the rural management system should carry out restructuring while adhering to the principles of "two long-term constant": no changes for a long period of time in the system of public ownership of land, and no changes for a long period of time in responsibility system. Application of the fundamental principles of Marxism-Leninism, analysis and study of these new problems, and working out suitable solutions were tasks proposed by this meeting.

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CSO: 4007/227

INCREASED TEA PRODUCTION BENEFITTING STATE, PEASANTS

Hangzhou ZHEJIANG RIBAO in Chinese 3 Feb 82 p 1

[Article: "Increased Tea Production Can Benefit the State and Peasants With Greater Incomes--Zhejiang Province Inaugurates a Policy of Setting Quotas for Tea Procurements With Higher Prices for Over-Quota Sales"]

[Text] In 1981, Zhejiang Province continuously pursued the policy of setting tea procurement quotas with higher prices for over-quota sales. This policy can lead to four advantages: promotion of tea production and procurements, higher profits for tea processing plants, more benefits for peasants growing tea, and greater financial accumulation for the state.

First of all, the policy of setting quotas for tea procurement and higher prices for over-quota sales stimulates the initiative of tea production by tea-growing peasants and communes and production brigades in tea-producing areas. In 1981, tea production in Zhejiang Province was about 1.72 million piculs, more than 10 percent over the amount in 1980. Tea procurements in 1981 were 1.56 million piculs, 15 percent over the amount in 1980. Both 1981 production and procurement figures are the highest in history. In 1981, peasants sold the state 540,000 piculs of tea over the quotas with higher price income of 23.31 million yuan, an increase of 10.21 million yuan over 1980.

The tea-producing counties have an overall political view and see the entire situation. They supplied the state-operated tea processing plants with abundant raw materials--tea leaves procured from peasants. The tea processing plants adopted means to encourage over-quota sales and to return most processing profits to the counties supplying the over-quota tea leaves. In 1981, the total returned profits to the counties supplying tea amounted to 4.08 million yuan; the amount was exclusively used to support tea production. In 1981, the various state-operated tea plants earned an over-quota profit of an additional 680,000 yuan more than in 1980.

The state also had a corresponding gain in financial accumulation from increases of volumes in tea production, processing and sales. In 1981, the tax revenue income to the state treasury due to tea procurement was 75.37 million yuan, 4.26 million yuan over 1980.

10424
CSO: 4007/314

USE OF ORGANIC FERTILIZER TO ACHIEVE BUMPER HARVESTS URGED

Hangzhou ZHEJIANG RIBAO in Chinese 9 Feb 82 p 1

[Editorial by Zhen Xiazheng [7115 2556 1794]: "Present Composition of Fertilizers Hampers Increase in Agricultural Output Since Organic Fertilizer Should Be Stressed to Achieve Bumper Harvests"]

[Text] Crops require fertilizer as food, so adequate fertilizers should be available in preparation for plowing.

This year the complaint of "fertilizer shortage" was heard in many localities; however, some people noticed that no commune members came to cities to collect garbage from street and lane residents. Very few peasants still blend soil with ash from straw. No peasants fight to collect feces and urine in the cities....Look at the statistical tables of agricultural departments: the 1981 cultivated area of green-manured crops in Zhejiang Province was reduced by more than 600,000 mu. A shortage of grass seeds was projected but there is an inventory of 5 million jin. This is an abnormal phenomenon. If there is a shortage of fertilizer, why is this fertilizer source overlooked?

Some comrades who are aware of the situation in the rural areas pointed out that at present people yearn only for chemical fertilizer. Urea and ammonium sulfate are needed, the more the better. It seems that organic manure is out of fashion.

This is reallly an alarming and mounting trend. The proportion of organic manure used by peasants is steadily declining. In some areas only 20 to 30 percent of fertilizer is supplied by organic manure but there are cases where hundreds of jin of chemical fertilizer is applied annually per mu of farm field. What is the result if only chemical fertilizer is applied? Let us look at some facts from recent years.

First, crops are deficient in nutrition so their growth is retarded, causing low outputs. Just as a person needs different nutrients from different foods, a crop needs more than ten types of nutrients during its growth process. Organic manure is a complete fertilizer, containing not only the three major elements (nitrogen, phosphorus and potassium), but also minor elements like calcium, magnesium, sulfur, and iron, as well as trace elements like boron, manganese, copper, zinc, molybdenum and silicon to meet a crop's requirements.

At present, the reduction in organic manure reduces the amounts of some nutrients required by a crop. This imbalance in nutrients leads to nutrition-deficiency diseases. The flowering of rape without bearing seeds is a symptom of boron deficiency. At the beginning, the boron-deficiency disease only occurred in one or two counties, but now rape crops planted in 32 counties suffer from this deficiency, necessitating boron spraying onto an area of 1.5 million mu, occupying more than 43 percent of the total rape cultivation area in these counties. Because of the boron deficiency, cotton plants grow buds but not flowers; wheat plants bear no grains in empty hulls. Moreover, orange trees suffer from a deficiency of iron and manganese; paddy rice plants are deficient in zinc and silicon; and cotton plants suffer from potassium deficiency. More and more severe situations are developing. According to statistics from four counties (Cixi, Shangyu, Xiaoshan, and Haiyan), more than 170,000 mu of cotton plants suffered from stem blight in 1981 due to potassium deficiency. Cotton harvests were reduced by 10 to 20 percent.

Secondly, crop pests are spreading. Crops relying mainly on nitrogen chemical fertilizer have lower pest resistance and contract diseases more easily than those treated with organic manure. This was the situation in recent years. Using specialized terminology, this is an increase of non-protein nitrogen and weakening of pest resistance. According to information from comrades in agricultural departments, in recent years there were wide outbreaks of stripe rust disease, leaf blight and spot, and spike-neck pests. Although these outbreaks are related to meteorological conditions, yet higher pest rates, wider outbreak areas, and more serious diseases occurred in regions with heavier applications of chemical fertilizer than other regions. From data provided by Yinxian County, according to studies of 50 plots of late-maturing rice fields in 1980, with heavier application of chemical fertilizers, in indexes of leaf blight and spot were correspondingly higher and outputs lower. In that year, 1980, there was 245,000 mu of early maturing rice fields suffering from the outbreak of leaf blight and spot; the loss of grain amounted to 38 million jin.

Thirdly, the soil crusts over and fertility declines. New low-output fields are appearing. According to studies both at home and abroad, approximately 70 percent of crop nutrients are derived from the soil, therefore land cultivation requires maintaining soil fertility, thus requiring the application of organic manure. With reduced application of organic manure, soil fertility is not replenished after exhaustion, thus causing lower harvests. For example, of the cotton harvests in Cixi County, in the past, areas planted to green-manure crops amounted to 80-90 percent; later the percentage gradually dropped to under 15 percent. Moreover, a smaller number of hogs were raised, resulting in less barnyard manure. Year after year, chemical fertilizers were mainly relied upon, resulting in continuously decreasing organic matter in the soil. According to surveys by the Zhejiang Provincial Academy of Agricultural Sciences, in 3 years the reduction of organic matter in cotton fields is 10 percent if no green manure crops are planted. At present, about 79 percent of the cotton fields in Cixi County suffer deficiency or serious deficiency in organic matter. Year after year of cultivation has led to greater and greater soil crusting; the cotton yields were reduced to about 70 jin from more than 150 jin per mu. As some commune members said, "how can you expect a bumper harvest if cotton is planted on hard-surfaced highways?"

Additionally, there are abnormal changes: thinner blades of mulberry and tea leaves, diluted flavors in melons and fruits, lower quality of rice grains, and smaller cotton bolls; every one of the abovementioned phenomena is related to the shortage of organic manure.

We can see that good crop harvests cannot be obtained by applying less organic manure. We stress organic manure: this is not a temporary measure to solve the fertilizer-shortage problem. This is a strategic plan to ensure high and steady crop harvests with high quality and low cost.

There is a farming proverb in Zhejiang Province, "Two types of valuables in farming: hog manure and safflower." Viewing only the immediate and temporary economic benefit, some people believe that cultivation and the accumulation of manure are not as good as simply buying fertilizers. They discard these two valuables; this is an incorrect policy. Some other peasants receive endless benefits only understanding these valuables. Since the development of duckweed cultivation in paddy fields from 1979 on at Taoshan Ward of Rui'an County, the annual increase of grain output has been more than 100 jin per mu. The Lujiawan Production Brigade in Deqing County and Zhongan Brigade in Tongxiang County had for the past 6 or 7 years a per mu output of more than 2000 jin of grain. Not only were bumper harvests obtained in grains and mulberry leaves, but also high and steady production of fish raised in ponds. One of their primary conclusions is the application of large amounts of barnyard manure, river mud, and miscellaneous soil-blended manure, as well as returning to the field of rice straw and wheat stems. Each year, the return and renewal of organic matter to the farm field amounted to 2000 jin per mu. Hence, soil fertility was increased with greater cultivation. As always, yields of late-maturing rice in Zhejiang Province have not been high and steady. However, in these two brigades the per mu yields of late-maturing rice amounted, respectively, to 910 and 966 jin. This is a good example showing that fertile soil leads to bumper harvests.

At present, more and more countries recognize the importance of applying more organic manure. In recent years, a large number of people were sent from abroad to Zhejiang Province to learn about what has been achieved in applying organic manure; some people even stayed for a long period to study the cultivation of duckweed in paddy fields. In 1981, the Soil Resources and Protection Section of United Nations FAO organized experts from 11 countries in the Asian Pacific area to visit China to study the utilization of green manure. Engaging in many years of "inorganic farming," these countries now stress organic manure. Why do we, traditionally stressing organic manure, conversely now discard the organic manure?

This is the reason why the agricultural experts have been demanding the use of organic manure in farming.

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CSO: 4007/314

AGRICULTURAL BANK SUPPORT TO COMMUNE, BRIGADE ENTERPRISES

Hangzhou ZHEJIANG RIBAO in Chinese 28 Jan 82 p 1

[Article: "1981 Loans of 1.4 Billion Yuan to Commune and Brigade Enterprises by Agricultural Banks in Zhejiang Province--Support the Commune and Brigade Enterprises to Develop Production of Consumer Goods by Utilizing Local Resources"]

[Text] According to the policy of national economic readjustment, different levels of agricultural banks and credit unions of Zhejiang Province granted loans of 1.4 billion yuan to commune and production brigade enterprises to support them in the development of consumer goods production by adequately utilizing local resources.

Last year cadres of agricultural banks and credit unions of some regions of the province toured rural areas to investigate and study more than 30,000 commune-and production brigade-operated enterprises. According to the production, supply and sales trends of products as well as the management and administration situations of these enterprises, the banks and credit unions selected enterprises with outstanding performance for priority handling to support the production of consumer goods in heavy demand, as well as the processing of agricultural and sideline products and the production of small farm implements. In Haining County, in 1981 the agricultural banks and credit unions granted loans of 70 million yuan to commune-and brigade-operated textile industries and agricultural and sideline processing industries. These loans promoted the development of commune and brigade enterprises with a total production of 193 million yuan, 45 percent over 1980.

In order to help commune and brigade enterprises to increase economic benefits, many municipality and county bank branches stressed economic information activities by helping these enterprises to have timely access to changes in supply and demand. By tapping the advantageous conditions of wide-ranging connections of financial department, the banks in different localities open sales and purchase channels to help enterprises to handle inventory and production goods. Moreover, by using the means of settlement, the banks helped in promptly recovering receivables, thus speeding up capital circulation in enterprises.

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BRIEFS

LIVE HOG PROCUREMENT QUOTA FULFILLED--Up to 10 March 1982, Zhejiang Province has already procured 2.38 million head of live hogs, thus fulfilling early the first quarter of procurement quota. This is a 6.8 percent of increase during the same period in 1981. Since the beginning of 1982, government of all levels has strengthened the leadership in live hog production, focusing its policy on stabilizing commune- and brigade-run live hog production and the state's procurement task. [Excerpt] [Hangzhou ZHEJIANG RIBAO in Chinese 25 Mar 82 p 1]

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END

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AGRICULTURE

No. 204

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I. GENERAL INFORMATION

PEP TALK GIVEN IN PREPARATION FOR ANOTHER YEAR OF ACRICULTURAL ACTIVITY

Beijing ZHONGGUO NONGMIN BAO in Chinese 7 Feb 82 p 1

[Article by Commentator: "Strive to Increase Economic Benefits from Agriculture"]

[Text] The lunar new year has come and gone, and soon spring plowing and production, and spring production activities in forestry, animal husbandry, and the fishing industry will move from south to north. Consecutive years of bumper harvests and bumper earnings in many places have provided extremely advantageous conditions for this year's production, if agricultural production is to maintain all-around development during this new year, special attention will have to be given to broadening avenues of production, lowering production expenses, and increasing economic benefits.

Striving for economic benefits is something that agricultural production and other production units should give extreme attention. In the farming industry, the breeding industry, and rural industrial sideline occupations, emphasis should be given increases in yields per unit of area, to improving quality of products, to raising labor productivity rates and commodity rates, and to getting maximum economic benefits from minimum investment of labor and capital. The former practice in agricultural production of not striving for benefits, not being concerned with economic acounting, extravagance and waste, and increase output without increasing earnings should not be repeated.

In striving for economic benefits, one cannot look only at momentary increases in individual economic benefits, but rather simultaneously take into consideration longrange many sided overall economic benefits. For the present, this means having the state plan paramount and market regulation supplementary in the formulation, in combination with local conditions, of production plans for the entire year. There has to be all-around implementation of the program of "positively no relaxation of grain production and active development of economic diversification," and making the most of local advantages, and development through adaptation of general methods to local situations had to be coordinated with an equitable pattern nationally to prevent a tendency toward blind production and sole pursuit of profits that is deleterious for the working people's wealth. In matters such as stability of the area sown to grain, implementation of production plans and a bonus system for hog raising, and suburban vegetable production, equitable arrangements have to be made. Planned procurement of agricultural sideline products by commercial units must be on the basis of contracts concluded with production brigades and communes that are jointly honored.

Pursuit of economic benefits requires very good arousal of the enthusiasm of producers. Today, more than 90 percent of all rural production teams practice various forms of a system of responsibility in which contracting is linked to production. When peasants plant crops, raise livestock, or engage in industrial sideline occupations, costs must be taken into account, and careful calculations made. Management and administration has to be improved in an effort to increase economic benefits. This requires, in advance of spring production, that the forms of a system of responsiblity for production be stabilized as quickly as possible, and that various forms of contracts be concluded setting forth the economic relationships and the rights and obligations of production teams and commune members, and among work teams, permitting production teams and commune members to do early planning, and act early in order to assure realization of economic benefits.

Pursuit of economic benefits requires vigorous extension of science and technology, equitable use of resources and investment, and fullest use of the role of rural scientific and technical personnel. This includes equitable use of land, pastures and water surfaces; adaptation of general methods to local situations in the selection of superior varieties, arousal of the masses to select breeds and process seeds to improve farming and livestock raising techniques; to fertilize scientifically, and to use pesticides and water scientifically; and to select machines and implements for the farming, forestry, livestock raising, and fishing industries, etc. The broad masses of people, cadres, and technicians must also be depended on for the establishment and perfection of systems of responsibility for extension of technology so that greater benefits will be derived from the enthusiasm for study and use of science that is building in rural areas.

Pursuit of economic benefits also requires intensification of ideological and political work. Party organizations at every level, and cadres at every level in rural areas are to indoctrinate the broad masses of peasants in the need to act on the principal of the whole nation being a chessboard, giving consideration to the welfare of the country, the collective, and individuals rather than caring only about oneself. Simultaneous with active peasant support to cities and to industrial construction, each trade and industry should vigorously support agriculture. Units concerned should promptly provide rural villages the high quality and low priced means of production needed for spring production so that agriculture can better bring economic benefits into play.

Improvement in economic benefits is a longrange task. However, attention must be given to action from the very beginning of the year, and action must be taken regularly, firmly, and totally. Cnly in this way can genuine economic benefits be brought about.

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PERFORMANCE, PROSPECTS FOR FISHING INDUSTRY DISCUSSED

Future Emphasis in Three Areas

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Feb 82 p 2

[Article by Xiao Peng [5135 7720], State Aquatic Products Administration]

[Text] During 1981, the broad masses of staff and workers in the aquatic products sector have rallied to produce rather good achievements in the development of China's aquatic products enterprises. Nevertheless, both quantity and quality of aquatic products are still a very long way from satisfying the ever increasing needs of the people. During the coming year of 1982, we need to do a great deal of work in many fields, notably the following three.

First is continued implementation of the program of readjustment of aquatic production, hastening development of both freshwater and ocean breeding. During the past several years, the breeding industry has increased by about 10 percent annually, an unprecedented accomplishment. Recently CCP Central Committee leadership comrades have noted that economic diversification requires emphasis on making the most of the potential that water surfaces and beaches around bodies of water provide to add new impetus to development of the hatching of aquatic products. We are determined to take the opportunity to maintain and develop this fine momentum, relying on policies and on science to do a solid job of solving problems with fry, with feeds, with fish diseases, and with efforts to promote key techniques. In ocean fishing, the measures to protect resources taken during the past several years and the results achieved must be consolidated. At the same time, it is necessary to actively develop economic diversification, to assemble high horsepower fishing boats for deep sea production, to make use of everything in processing, to upgrade quality and output value in every way, and to provide for surplus labor in fishing areas.

Second is use of every available means to improve economic benefits. In the breeding, catching, production, supply and marketing of aquatic products, both state-owned or collectively-owned, potential for increase in economic benefits is very large. China's traditional fish raising methods which are linked to farming, forestry, and livestock raising, are world renowned for their advanced techniques of making full use of resources, conserving energy, and maintaining ecological balance; however, through the use of modern scientific methods to solve problems with mixed feeds and the breeding of fine varieties, economic benefits can be further improved greatly, to say nothing of what these techniques can do for places that "raise fish in plain water and rely on heaven for results." A priority task is to devise ways in which minimum expenditures can bring maximum benefits in situations in which resources are not good for catches or where energy is insufficient... The enthusiasm among the broad masses of fishermen that institution of systems of responsibility for production by fishing communes and brigades has aroused should increase economic benefits. The reorganization of teams in state-owned aquatic products enterprises and the improvements made in administration and management have as their goal increases in output and effecting savings. Equipping of the commodity bases, whose construction the state has supported during the past several years, should be emphasized to derive benefits from investment. In short, emphasis should be placed on going into production to increase economic benefits, with implementation in every field for the building of aquatic products production.

Third is intensification of ideological and political work, indoctrinating the broad masses of fishermen, staff and workers in a conscious proper relationship among the interests of the country, the collective, and the individual. The policies instituted since the Third Plenary Session [of the 11th Party Central Committee] whereby procurement prices paid by the state for aquatic products have been increased and a combination of requisition procurement and negotiation procurement has been put into effect have substantially increased fishermen's earnings. In the present situation of a shortage of aquatic products and great list price differences, indoctrination of fishermen should emphasize selling more fish, selling good fish, and making sure that quotas for sales to the state are fulfilled to make a great contribution to the country. In addition, attention should be directed to correcting a tendency in some communes and brigades to strive for increases in earnings to the neglect of collective accumulations. In communes and brigades and in enterprises in fishing regions, there should be continued adherence to resisting and opposing various unhealthy tendencies, and active building of socialist spiritual civilization.

Increase in Cold Storage Facilities

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Feb 82 p 2

[Article by Chen Xiaojun [7115 2556 6511]]

[Text] In 1981, the broad masses of fishermen, staff and workers in fishing industry communes, brigades and enterprises throughout the country conscientiously put into effect a program of readjustment for equitable use of resources, vigorous development of breeding, and improvement in quality of products. Planned output of aquatic products for the year was for a five percent increase over 1980, and preliminary statistics show that production plans are likely to be overfulfilled by five percent. The addition of 36,000 tons of cold storage capacity makes 1981 the greatest year of increase since founding of the People's Republic.

Freshwater fish raising increased by more that 10 percent over 1980, and state-owned and collective water surfaces for the raising of freshwater fish increased by 2 million mu over 1980. Commune member household raising of fish has also been ever greater. According to incomplete statistics from six provinces including Hunan, commune household raising of fish has already passed the 1.2 million household mark on water surfaces of somewhat more than 360,000 mu. A water surface area of somewhat more than 230,000 mu where commodity fish bases have been built with state support have gone into production, an increase that more than doubles the 1980 amount. Statistics from 106 large and medium size cities report quantity of fish raised in suburbs to have risen from 100,000 tons in 1979 to more than 150,000 tons.

Thanks to institution of rights to beach areas and systems of responsibility for production, which aroused enthusiasm in all quarters, the ocean breeding area increased 10 percent over 1980 and output overfulfilled plan by 10 percent. Sea delicacies and mollusks found in shallow-water areas were particularly productive. Despite the rather severe disasters that beset shrimp breeding in 1980, output still overfulfilled plan.

Ocean fishing industry adoption in recent years of measures to protect propagation of resources has turned around a tendency toward decline of some kinds of fish, as for example, hairtails in the East China Sea, which have provided bountiful harvests for 2 consecutive years. All-around use of off-shore fishing has begun, and active development of deepwater fishing is underway, deepwater catches having increased by 25 percent over 1980.

As a result of the growth in fishing industry production, average per capita income for fishermen in 1980 amounted to 173 yuan, and it is predicted that 1981 figures will also show an increase to have occurred. In some places, extent of increase has been tremendous. The Tianjiaweizi Fishing Brigade in Gai County, Liaoning is one such place where during 1981 accumulations increased 2.9 fold; commune member earnings averaged more than 1,000 yuan per capita, and the collective's total earnings increased 2.1 fold over 1980.

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EXCESSIVE CONTROL OF TOBACCO CRITICIZED

Beijing RENMIN RIBAO in Chinese 19 Jan 82 p 2

[Article by Yang Guoan [2799 0948 1344]: "How Can Flue-cured Tobacco Procurement and Sales Adapt to Growth of Production? Last Year Produced a Bumper Crop of Flue-Cured Tobacco For a 9 Million Dan Surplus Nationally, Yet Some Marketing Areas Continued to Import Tobacco While Producing Had a Serious Glut on Hand"]

> [Text] Editor's Note: Following publication of a column discussing "How Can the Circulation Field Adapt to Rural Economic Growth?", we received some letters from readers expressing their gladness about and support for the discussion. Columns printed during the past several weeks have presented some different views on the issue of the relationship among requisition procurement base figures, plan channels, and other channels for the start of a discussion. The two articles printed today are also related to the above issue. We welcome readers everywhere, particularly comrades doing grassroots work, to send in letters to jointly make the discussion of this column more thoroughgoing.

Flue-cured tobacco is one of China's major economic crops. As a raw material for a consumption good used in a habit, tobacco has only one use, unlike grain for which the greater the production the better. Consequently, production of flue-cured tobacco must be linked to demand.

For many years a conspicuous problem in the development of flue-cured tobacco in China has been that production has been out of line with demand. Production has been blind, tobacco being momentarily in plentiful supply only to be momentarily in short supply, placing both the cigarette manufacturing industry and tobacco production in a passive role. At the present stage, China's flue-cured tobacco output cannot be said to be very great, but it is changing away from being a commodity in short supply. If the relationship beween production and needs is not handled well and blind development takes place, inevitably we will have to rewalk the old road of ups and downs in supply.

Commodity circulation is the bridge that links production with consumption. In order to adapt to the present rural economic situation and promote planned and stable growth in China's flue-cured tobacco production, circulation links must solve the following real problems.

(1) Organizing and guiding production on the basis of social needs. In both quantity and quality, tobacco production must be generally commensurate with market demand. In this matter, full investigation and study and market surveys are extremely important. Reliable market information must be regularly supplied producers so that they know what's what and can scientifically plan and arrange for development of production. The simple method of "cutting when there is too much and catching up when there is not enough," is not a good means for actively organizing production and circulation.

(2) Use of economic agreements to dovetail industry and commerce and agriculture and commerce. First, under plan guidance, there should be organization of production (areas) and marketing (areas) by vocational units in charge for direct contacts and formulation of supply and demand contracts between units dealing in tobacco and cigarette enterprises. Next, on the basis of needs, units dealing in tobacco should make procurement and marketing agreements with tobacco producers, and organize tobacco production in coordination with agricultural units, put into effect acreage and sales quantities, and propose quality requirements. Procurement units would have to guarantee to buy the quantities stipulated in the agreements, while at the same time taking necessary economic measures or placing limits on those who do not live up to agreements or plant blindly.

(3) Improvement in methods of allocating supplies. Under the present system whereby units in charge, from top to bottom, uniformly distribute tobacco instead of allowing market trade, not only are links and layers more numerous, but control is stifling. When commodities are somewhat greater than usual, if plants do not actively order them, commercial units feel they have to carry a burden. When commodities are a little less than usual, and cigarette plants have trouble getting an allocation, people are out everywhere trying to buy tobacco. In 1981 flue-cured tobacco output increased tremendously and national production and demand were in balance for the year with a surplus of about 3 million dan. However, owing to the restriction of administrative controls in the allocation of tobacco, the increase in output did not mean an increase in allocations. On the one hand in some marketing areas supply of raw materials to make cigarettes were insufficient and tobacco was steadily imported, while on the other hand there was a serious glut in producing areas, some tobacco being lost through mildewing and rotting. The key to change in this situation lies in adherence to a planned economy and making full use of the supplementary role of market regulation, with the gradual establishment of a liberalized commodity circulation market including direct signing of economic contracts between both parties to supply and demand under guidance of the state plan.

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TWO NEW COTTON VARIETIES COMPARED

Beijing RENMIN RIBAO in Chinese 19 Jan 82 p 2

[Article by Zhong Haozhang [6988 3185 4949], Cotton Institute, Chinese Academy of Agricultural Sciences, "What Is the Difference Between Zhongmiansuo No 8 and Zhongmiansuo No 10 Cotton Varieties?"]

[Text] On 2 May 1981 your newspaper carried a story on fine cotton variety, "Zhongmiansuo No 8," and subsequently carried another article on "Zhongmiansuo No 10." Now I will reply below to the several letters your newspaper forwarded from readers inquiring about the differences and characteristics of these two varieties.

"Zhongmiansuo No 8" strain (formerly known as 758), is a hybrid formed from 24 - 21 x [(e1472 x Mian 6-11) x 5476N] through the continuous breeding of individual plants, which was successfully produced in 1976. In an average year it has a 135 - 140 day growth period, making it an early maturing intermediate upland cotton variety. Plants reach a height of from 80 to 110 centimeters. Sowing may be done in spring, the period between 15 and 25 April being the most suitable time for sowing. Density per mu of seedlings should be as follows: 4,000 plants per mu in most cottonfields. For high yield fields producing more than 220 jin per mu of ginned cotton, 2,500 to 3,500 plants should be retained, each plant keeping 11 to 15 boll-bearing branches. This variety's greatest merit is its high ginning outturn rate, and its stability. Ginning outturn averages 42 to 46 percent, and reaches a maximum of 48 percent. Because of the high ginning outturn rate, yields of ginned cotton per unit of area are also high. Results of experiments in regional testing of cotton varieties at 17 sites in the cotton growing area of the Huang He basin showed, for example, yields of ginned cotton averaging 193.21 jin per unit of area, 18.8 jin more than for the control variety (Lumian No 1).

"Zhongmiansuo No 10" (formerly 509). This strain was bred from a natural variant, "Heishanmian No 1," and it is an early maturing upland cotton variety. Its total growing period is 113 days. Plant height is about 50 centimeters. It is suitable for growing in a continuous two crop changed farming system. It should be sown in early June. About 8,000 plants per mu should be retained.

Because the period for boll formation is short when cotton is grown following wheat, boll formation on individual plants is relatively small. In order to get high output, density of planting has to be increased, planting has to be done early and pushed up the earth correctly, so that between 5 and 6 boll-bearing branches can be retained on each plant. This variety's greatest merits are early ripening, bumper yields, and superior quality. Results of regional tests at 12 test sites in the Huang He basin in 1980 showed, for example, yields of ginned cotton averaging 138.1 jin per mu, 30.8 jin more than from "Heishanmiao No 1."

This shows that the two varieties differ greatly. The growing season for "Zhongmiansuo No 8" is relatively long; it is suitable for spring planting; and it requires sparse planting. The growing season for "Zhongmiansuo No 10" is short; it is suitable for summer planting; and it requires dense planting. Each has its own individual characteristics and properties, and its own environmental and planting requirements. Furthermore, the two varieties differ also both individually and in colonies.

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FINE SHOWING REPORTED BY STATE FARM DESPITE CALAMITIES

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Feb 82 p 1

[Article by Yu Xin [0060 2450]: "State Farm and Land Reclamation System Triumphs Over Calamities to Win Heartening Achievements in Production in 1981"]

[Text] In 1981 the national state farm and land reclamation system triumphed over serious natural calamities and, except in Heilongjiang reclamation areas where particularly severe flooding reduced grain outputs, a slight surplus for the year is expected after profits have been offset against losses throughout the system, with cotton output increasing by 23.8 percent, oil-bearing crops increasing by 14.4 percent, sugar crops increasing by 9.5 percent, dry rubber increasing by 1.3 percent, tea and fruit increasing by about 6 percent, and industrial output value increasing by 10 percent.

In 1981, 44 percent of the national state farm and land reclamation system's total cultivated land area sustained disasters. This included 80 percent of the sown area in Heilongjiang's reclamation areas where 33 percent of crops were lost. Lashed by such serious catastrophes, the state farms took firmly in hand readjustment of the orientation of investment, the economic structure, and crop patterns, winning rather good economic results for their efforts. In the Xinjiang reclamation areas, grain, cotton, and oil-bearing crop outputs reached all-time highs for a reversal of 12 years of continuous losses. Farms and industrial plants under the Jiangsu State Farm and Land Reclamation Bureau made a profit.

Simultaneous with attention to implementation of systems of responsibility for production and widening of production avenues, plus development of economic diversification, the state farm and land reclamation system actively developed integrated agricultural, industrial, and commercial operations. In 1981, numerous prefectures carried on liaison outside the prefecture to open commercial channels and develop markets for products. In Henan, 67 percent of farms experimented with integrated enterprises, building more than 200 network outlets for anticipated profits of 800,000 yuan. The state farm and land reclamation system also showed extreme concern for technical training. The Yunnan Agriculture and Land Reclamation Administration alone ran 50 cadre training classes with 4,460 enrollments for study. The state farm and land reclamation system also devoted intense attention to scientific farming, and did a lot of work in soil improvement, in increasing soil fertility, in preventing and controling diseases and insect pests, and in promoting fine varieties and new techniques, which produced remarkable results. One example was in Xinjiang reclamation areas where promotion of the new techniques of using plastic sheet mulch in the growing of cotton increased cotton output by from 35 to 50 percent.

9432
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LAXITY IN SOME GRASSROOTS ORGANIZATIONS SCORED

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Feb 82 p 1

[Article by Commentator: "Conscientiously Surmount Laxity in Some Rural Grassroots Organizations"]

[Text] How to maintain the paramount position of the collective economy in the process of summarizing and perfecting rural systems of responsibility for production, make the most of the economic function and the function of political power of communes and brigades, and surmount a troublesome situation of laxity in grassroots organizations in some communes and brigades in which no one looks after the collective economy and no one takes responsibility for building production are problems in urgent need of solution.

Currently China's rural economy has both a collective economy in which the scale of organization varies and methods of operation differ, and also state farms and a household economy that augments the collective economy. Such a diversified economic structure both helps give impetus to more rapid development of social productivity and helps take full advantage of the superiority of the socialist system. However, China is a socialist country with a population of 1 billion that both has to provide food for its people and also has to smoothly carry out socialist construction. This requires practice of a planned economy on a foundation of public ownership while, at the same time, bringing into play the supplementary role of market regulation. The rural commune and brigade collective economy is the tissue cell of China's planned economy, and the forward base for the acceleration of agricultural growth and realization of the modernization of agriculture. Under the new situation of practice of various forms of a system of responsibility for production, rural communes and brigades perform an economic function in the collective economy, which not only cannot be weakened but rather requires constant improvement and strengthening. This is the only way to meet the new situation in development of agriculture, to provide for production, and to organize market sales so that China's agriculture, from production to marketing, is conducted under the guidance of state plans, thereby satisfying requirements of both the state plan and urban and rural markets.

With the establishment of systems of responsibility for production, as a result of improvements in the organization of labor and methods of calculating remuneration, and the coordination of the relationship between collective welfare and individual welfare, enthusiasm for both unified collective farming and independent farming by workers has been aroused. In consequence, some people suppose that with "a fixing of output quotas on a household basis, [which] makes every family its own cadres," production needs no longer be arranged by the collective, and the economy no longer needs be controlled by the collective as though the economic function of rural communes and brigades had disappeared. In addition, some rural cadres are momentarily puzzled about party policies and do not know how to function under these new circumstances. They do not dare exercise control over matters that destroy collective property, and they do not dare oppose dishonest practices. As a result, grassroots organization in some cummunes and brigades is lax or has devolved into a state of paralysis or semi-paralysis. This is highly irregular and unnecessary.

It should be explained that with the establishment of systems of responsibility and the dispersal to individual households of certain farming activities, our cadres will be required to improve their work methods. However, in the implementation of the party's various rural programs and policies, and in the fulfillment of various tasks, reliance will still have to be placed on rural grassroots organizations including the party organization, the political structure, economic units, and mass organizations, and this is unshakeable. Rural communes and brigades must assiduously take up the economic and political functions for which they should be responsible, actively protect and bring into play the paramount position of the collective economy, and intensify collective unified leadership, control, and cooperation. For example, in the current process of summarizing and improving systems of responsibility for production, collective ownership of the land must be maintained, and earnest attention given protection of cultivated land and rational use of cultivated land. Use of collectively owned cultivated land, garden plots, forestlands, grasslands, water surfaces, and beaches, as well as of barren mountains and wastelands must be put under unified collective planning and arrangements, and no unit or individual is allowed to take private ownership of them. It is strictly prohibited to build houses, make graves, or remove the soil from land that has been contracted for production; commune members may not buy or sell land for which they have contracted production, nor are they allowed to rent it out, to transfer it, or to let it lie uncultivated. All rural grassroots organizations and the broad masses of cadres must take up the cudgels on behalf of these fundamental policies of the party.

In places practicing systems of responsibility linking output to contracting, including places practicing the fixing of output quotas on a household basis or assigning sole responsibility for work on a household basis, in their capacity as organizations in the collective economy, production brigades and production teams must continue to retain their needed economic functions. These include responsibility for equitable distribution and allocation of land contracted for, good management and use of cultivated land; providing of production plans to the collective, to contracting households, and to specialized households; doing a good job in the capital construction of agriculture and in promotion of new agricultural techniques; concluding economic agreements and putting them into effect, fulfillment of quota procurement tasks and collective withholdings; care for the families of martyrs and military personnel; and providing for production by and the livelihood of hardship households. Acting in their capacity as grassroots political units, communes and brigades must do a good job in social rescue work, culture, education, and health work, planned births, militia training, maintenance of public order, and arbitration of civil altercations in order to protect the socialist economy, and guarantee that national laws and ordinances are carried out.

In some rural communes and production brigades where systems of responsibility for production have been rather well perfected, systems of personal cadre responsibility have now been established. Places having the conditions should do likewise. This is advantageous in promoting arousal of revolutionary spirit on the part of rural grassroots cadres, in increasing a sense of work responsibility, in transforming work style, and solving problems in a down to earth way.

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PRC EXPANDS IMPORTS, EXPORTS OF BREEDING STOCK

OW161234 Beijing XINHUA in English 1215 GMT 16 Apr 82

[Text] Beijing, April 16 (XINHUA)--China has established trade relations for breeding stock and poultry with more than 30 countries, according to the China National Breeding Stock Import and Export Corporation.

In 1981, China exported for the first time to France and Hungary fine "meishan" breeding pigs indigenous to Jiangsu Province. The sows may have more than 15 piglets at one farrow.

China's varieties of fine strains of livestock and poultry include pigs, cattle, sheep, goats, chickens, ducks and geese, said an official of the corporation. Companies from Japan, Europe and America are now holding talks with the corporation on importing of China's fine strains of breeding stock and poultry, he said.

Last year, he said, China imported more livestock and poultry of fine strains. Included were layers from Britain and Canada, turkeys and queen bees from the United States, meat-type pigs from Hungary, a dual-purpose breed of milk and beef cattle from Austria and Lincoln longwool sheep from Britain.

The imports were aimed at meeting the growing needs of the country's animal husbandry, according to the official. The imported breeding stock and poultry are used to breed fine strains or for hybridization. The 18-month-old hybrid beef cattle, which were hybridized from Chinese farm cattle with a dozen imported strains of beef cattle and the milk and beef cattle, produce about 100 percent more beef than local cattle.

Livestock and poultry breeding in China has grown rapidly since 1979 following the implementation of the new policy of encouraging herdsmen and peasant families to raise animals along with running state stock farms and raising animals by the collective.

CSO: 4020/120

BRIEFS

STATISTICAL TRENDS IN SYSTEMS OF RESPONSIBILITY--As of October 1981, 97.8 percent of the 6.01 million basic accounting units in China's rural communes had established various forms of a system of responsibility. Of this total, 81.3 percent had instituted a system of responsibility linked to output, and 16.5 percent had established a system of responsibility of contracting for fixed work quotas. Among those practicing a system of responsibility linked to production, 5.9 percent used specialized contracting with calculation of remuneration being linked to output; 10.8 percent practiced the linking of output to teams; 15.8 percent practiced the linking of output to individual members of the workforce; 3.7 percent practiced partial contracting with individual households, and 38.0 percent practiced contracting of work tasks to individual households. Changes that have taken place in systems of responsibility for production during the past 2 years were as follows. Systems of responsibility of contracting fixed work quotas have given way to a system of responsibility linked to output. Within system of responsibility linked to output, linking of output to teams has given way to linking of output to individual workers, and to fixing output quotas or contracting work tasks to households. Fixing output quotas on a household basis has rapidly declined from the high point of June 1981, changing to the contracting of work tasks to individual households. Contracting of work tasks to individual households has continued to develop. While continuing to develop, output linked to individual workers has begun to divide into specialized contracting and contracting production, and to contracting work tasks to individual households. Specialized contracting has steadily increased, but not a great amount of this is likely to be done over the near term. Currently, production in the system of responsibility linked to output has gradually developed toward grassroots cadres and extension of scientific techniques. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 11 Feb 82 p 3] 9432

MINERAL WOOL PRODUCTION--Beijing, 21 Apr (XINHUA)--China's first mineral wool production line, with an annual capacity of 200,000 cubic meters, imported from Sweden, opened recently at Beijing's new building materials factory. The line produces mineral wool boards, light boards, joint plates and insulation strips, and will meet the nation's basic demand for mineral wool products. The petroleum, chemical, power and shipbuilding industries have all filed orders. Beijing's Changcheng cotton textile mill has experimented with mineral wool to alleviate noise pollution and succeeded in reducing noise inside the mill 9.5 decibels and outside 15.5 decibels. Mineral wool has also been used for sound proofing and heat insulation in factories and high-quality residential housing. [Beijing XINHUA in English 0736 GMT 21 Apr 82 OW]

FRESH EGG PROCUREMENT--Beijing 13 Apr (XINHUA)--The China Foodstuffs Corporation on 13 April reported that fresh egg procurement in China in the first quarter of this year totaled 303.76 million jin, or 58 million jin more than the same period of 1981. With the rapid development in raising domestic fowls the past 2 years, a total of 894 million head of domestic fowls were being raised throughout the country as of early this year. To insure ample supply of eggs to city dwellers, the commercial departments in various localities have signed production and marketing contracts with production teams and chicken-raising families since the end of 1981. Following the implementation of assigned purchases of fresh eggs, both Sichuan and Anhui Provinces have increased procurement in the first quarter to 23.58 million and 24.34 million jin respectively. [OW191431 Beijing XINHUA Domestic Service in Chinese 0754 GMT 13 Apr 82 OW]

LOAN AMORTIZATION RATE UP--During 1981 China's rural financial institutions issued a large number of agricultural loans and had a high recovery rate, winning extremely fine economic benefits. Preliminary statistics from the Chinese Bank of Agriculture show that the Bank of Agriculture and credit cooperatives issued 30 billion yuan in loans and recovered 27.2 million yuan in loans for a 91 percent recovery rate, creating an all-time high. [Text] [Beijing RENMIN RIBAO in Chinese 19 Jan 82 p 1] 9432

SIDELINE PROCUREMENT OVERFULFILLED--1981 was China's best year during the last several for procurement of agricultural and sideline products. Statistics from the National Supply and Marketing Administration show a gross output value of 23.45 billion yuan for agriculture and sideline products procured nationally. This overfulfilled plan for the year and represented a seven percent increase over 1980. The provinces and autonomous regions of Guizhou, Yunnan, Xinjiang, Liaoning, Jiangsu, Shandong, and Jilin had fairly substantial increases, the rate of increase ranging from 10 to 34 percent. [Text] [Beijing RENMIN RIBAO in Chinese 19 Jan 82 p 1] 9432

CSO: 4007/235

ZHOU ZIJIAN AT FOOD INDUSTRY MEETING

OW172118 Hefei Anhui Provincial Service in Mandarin 1100 GMT 16 Apr 82

[Excerpts] The provincial work conference on the food industry held by the Anhui Provincial People's Government concluded on 15 April after a 6-day session. The conference centered on studying the policies and measures for expediting the development of the food industry in Anhui Province in order to better serve the people's livelihood and economic construction.

Zhou Zijian, acting first secretary of the provincial CCP Committee and provincial governor; Su Yu, secretary of the provincial CCP Committee and provincial vice governor; and Huang Yu, provincial vice governor, attended and addressed the conference. In their speeches, they pointed out that Anhui Province still has a great potential for developing its food industry because of its abundant raw materials and a rich tradition in food processing. Because of these superior conditions, the various localities must, in the light of local conditions and taking advantage of the locally available materials, develop high grade, nutritious foods and foods for export in addition to producing popular foods and reviving traditional foods.

Hu Tan, provincial vice governor and chairman of the Provincial Food Industry Association, presided over the conference and made a speech entitled: "Vigorously Develop Anhui Province's Food Industry in Order to Better Serve the People's Livelihood and Economic Construction."

The conference held: Anhui Province has made rapid progress in the food industry over the past few years. The province's total food industry output value reached 2.87 billion yuan in 1981, or 12.5 percent more than 1980. It is projected that the province should increase its total output value to 3.3 billion yuan this year, or 13.8 percent over 1981.

CSO: 4007/382

BRIEFS

PROVINCE FINANCES FARM PRODUCTION--The Anhui Provincial Finance Bureau recently held a meeting in Hefei on the task of providing financial support to agricultural work throughout the province. In the past 2 years, the province allocated 463.98 million yuan to support agricultural production despite its own difficult financial condition. These funds were used mainly to support the diversified economy and enterprises in the countryside. The results of utilization of these funds markedly improved after the funds were given in the form of interest-free loans instead of gratis grants. The meeting held that these funds from now on will be channeled directly to communes and their subdivisions to support mainly the diversified economy, reclamation of mountainous areas, household sideline production and poverty-stricken communes, production brigades and teams with due attention paid to economic results. [OW191133 Hefei Anhui Provincial Service in Mandarin 1100 GMT 18 Apr 82]

CSO: 4007/382

NEED TO HELP NATIONAL MINORITY PEOPLES MARKET PRODUCTS STRESSED

Beijing ZHONGGUO CAIMAO BAO in Chinese 16 Feb 82 p 3

[Article by Kuang Haolin [0400 3185 2651]: "Supply and Marketing Units Should Support Minority Nationality Areas in Economic Development"]

[Text] Implementation of systems of responsibility for agricultural production has brought about a series of changes in the rural economic life of the country. How to adapt to these changes in carrying out work has become a new problem encountered by supply and marketing units in a new situation. When newspapers and periodicals explore this problem, much discussion is devoted to how to satisfy needs for means of production and certain high quality commodities on the part of areas in which the economic situation has taken a turn for the better and by "outstanding" peasants, while little consideration is given to how to support economically backward areas and peasants who are still in fairly straitened circumstances to develop production and raise their standards of living. The situation has been even more so in the case of national minority areas. Historical experiences in this regard very much merit summary and study.

Helping communes and brigades accurately handle the relationship between the "uniform" and "contracting" to assure fulfillment of procurement plans handed down by higher authority is a problem that supply and marketing units in national minority areas must first solve in new circumstances. Decentralized contracting or parceling to commune members for their handling of matters that should have been uniformly administered has caused losses for collective property and has hurt supply and marketing units' fulfillment of procurement quotas. Supply and marketing units in the Xinhuang Tong Nationality Autonomous County in Hunan Province have focused on this situation, using loans to make investments in horticultural farms in some communes and brigades so that they will continue to develop, the communes and brigades assuring repayment of loans from earnings and selling a certain proportion of products to supply and marketing cooperatives. This methods has both consolidated the collective economy and provided reliable assurance of fulfillment of supply and marketing units' procurement plans.

Intensification of procurement and helping communes, brigades, and the masses develop sources of wealth are major ways in which supply and marketing units can support the economic development of minority nationality areas under new circumstances. Most minority nationality areas are relatively poverty stricken, and some places not only lack necessary funds to expand reproduction, but sometimes find it difficult even to sustain simple reproduction, producing a vicious cycle in the economy. At the same time, however, national minority area resources are relatively abundant, and many resources hav yet to be effectively used. If supply and marketing units were able to organize forces for the procurement and processing of certain goods among them and transport them for sale, these idle resources would immediately turn into a "tree that showers money." One example is Chinese yang-ao [Actinidia chinensis], which grows wild throughout national minority areas of western Hunan Province, a large part of which formerly rotted in the mountains because supply and marketing units did not purchase it. During the past few years, Chengbu Miao Nationality Autonomous County and Tongdao Tong Nationality Autonoumous County operated processing industries in conjunction with supply and marketing units. They processed some of the yangtao for canning and for the making of yangtao liquor, which they supplied through the country and marketed outside the country, thereby beginning to make use of this resource and increasing peasant earnings. If a substantial number of the abundant resources in national minority areas could be used in this way, the situation in those economically backward areas could be gradually transformed, and the impoverished peasants could also become prosperous.

Providing the peasants with timely market information and making sure that circulation channels are kept open are other tasks that supply and marketing units in national minority areas must regularly do well under new circumstances. With the implementation of a system of responsibility for agricultural production, particularly the system of responsibility of "large scale assignment of responsibilities," the commodity portion of agricultural products has steadily increased, and peasant dependence on markets has become increasingly great. This requires that supply and marketing units regularly provide peasants market news, in order to have various economic methods guide their production, and in order to avoid blindness in production. In 1980, Xiaoshajiang in Longhui County, Hunan Province, an area inhabited by Yao nationality, produced an excess of the medicinal material, hyssop [Achyranthes bidentata], which supply and marketing units were unable to purchase. As a result they had to burn more than 2,000 dan for a loss of 110,000 yuan, had it been possible to point out the market supply and demand situation to the peasants in advance, such a loss could have been avoided. Now, in minority nationality areas, some supply and marekting units use the signing of contracts as a method for guiding peasant production of staple agricultural sideline products and for the purpose of assuring fulfillment of procurement quotas. Such a way of doing things merits promotion. In order to assure no hitches in agricultural commodities, supply and marketing units are also required to keep circulation channels open. Peasants in the Tongdao Tong Nationality Autonomous County customarily grow ginger, which they have increased in recent years. In 1980, inasmuch as the province's markets were already glutted with ginger and since markets had not been promptly opened in giver-short regions of North China, 1981 ginger production was adversely affected and supply was unable to meet demand.

Additionally, in order to meet the dispersed character of peasant operations following institution of systems of responsibility for agricultural production, and particularly following institution of the system of responsibility of "large scale assignment of responsibilities," supply and marketing units must make commensurate changes in their work. For example, chemical fertilizers and pesticides will have to be sold by the jin and part of a jin; there can be none of the past sales simply by the bag. In the procurement of agricultural sideline products, it will also be necessary to accept them and pay for them whenever they arrive, rather than accept them only in groups. If payment for quota procurement and over-quota procurement of grain in minority nationality areas is made, as in the past, to production teams, fulfillment of procurement tasks will be impaired.

The main problems existing in the livelihood of the people of minority nationality areas are as follows: Certain commodities that the nationalities particularly require cannot be supplied with any certainty. An example is the coarse cotton cloth with white cotton thread cross-stitching needed by Yao nationality women to make skirts. Such a simple commodity cannot be bought regularly in some places. Unless this problem is properly resolved, not only will the masses feel inconvenienced with resultant consequences for development of enthusiasm for production, but it can develop into a nationality problem. It should evoke careful attention on the part of supply and marketing units. In the wake of institution of systems of responsibility for agricultural production a small number of fairly prosperous peasants have also shown up in minority nationality areas. They also urgently want to buy bicycles, sewing machines, and such high grade commodities. However, some areas cut back on shipments to minority nationality areas of such commodities, or they substitute run-of-the-mill goods for name-brand goods. This requires correction.

9432
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CONTRACTS BETWEEN PEASANTS AND COMMERCIAL UNITS PUSHED

Beijing ZHONGGUO CAIMAO BAO in Chinese 16 Feb 82

[Article by Commentator: "Let Peasants Know a Year in Advance"]

[Text] The situation survey of the agriculture and commerce contract system promoted by Dazhu County that this newspaper has published today very much deserves to be read by comrades everywhere who are engaged in rural commercial work.

The agricultural economy is an important integral part of the national economy and it must adhere to taking a planned economy as the key link, making regulation by the marketplace supplementary. Promotion of a system of agricultural and commercial contracts whereby agricultural and commercial contracts dovetail colleetive and individual commune member production activities with state plans constitutes a fine method for combining state plan guidance with respect for peasant self-determination.

Agricultural sideline products are of numerous kinds, and the quantity of social need for each kind of product is restricted by diverse elements. Which products require development, and which ones require control of quantities or improvement of quality all pose problems in individual planning arrangements. Unless plan guidance is instituted blind production with an imbalance between supply and demand may result to the deteriment of the welfare of the peasants, the collective, and the state. Promotion of a system of agricultural-commercial contracts can let the peasants "know a year in advance," and relieve peasant apprehensions about being taken unawares about outlets for their products. At the same time such contracts would help assure implementation of state production plans for agriculture as well as fulfillment of agricultural sideline product procurement in stipulated quantity and quality, would help support the position of major channels for the circulation of commodities, and would prevent various kinds of illegal assaults on major channels. In short, agricultural-commercial agreements have numerous advantages and should be actively promoted step by step.

Looked at in terms of the country as a whole today, promotion of a system of agricultural-commercial agreements is not yet sufficiently widespread. Though some places have promoted agricultural-commercial contracts systems, the honoring of such contracts is insufficiently ideal or even merely a formality. What is the reason? There are problems in organizational leadership, but more important is problems of ideological perception. One fairly universal perception is that the signing of agricultural-commercial contracts is regarded only as one method for fulfilling agricultural sideline products procurement quotas; consequently, in the course of promotion there are no discussions on a basis of equality but rather reliance is placed on administrative commands. Naturally this is not welcomed by the peasants. Signing of contracts is a two-sided matter, and there can be no desire merely on the part of one party. Both parties to a contract should enjoy the rights to which they are entitled and bear the responsibilities they should bear with no advantage solely for one party. Following the experiences of Dazhu County, before the signing of contracts, the role of agricultural-commercial contracts should be widely propagandized among the peasants and indoctrination in "simultaneous concern for three" should be carried out. In the process of concluding contracts, repeated discussions should be held with peasants in an effort to formulate equitable base figures that satisfy both parties. Commercial departments must also bear responsibility for providing technical guidance and means of production. Agricultural production is prone to the effects of natural disasters and contains an element of uncertainty. Should it happen that human efforts cannot prevail against natural disasters, initiative should be taken to discuss revision or cancellation of contracts with the peasants. These were important elements in the universal spread and honoring of the agricultural-commercial contracts system in Dazhu County.

In promoting an agricultural-commercial contract system, a conscientious job should be done in authenticating, checking, and arbitrating contracts, to firmly uphold the solemnity of contracts. The state designates industrial and commercial administration and management units as authenticating organs for economic contracts, and only following authentication do agricultural--commercial contracts possess legal validity. In the process of formulating agreements between agriculture and commerce, industrial and commercial administration and management units should not only understand provisions for examing contracts so that contracts are in accordance with policy requirements, but they should also understand circumstances under which contracts may be checked to discover problems and handled impartially. In order to maintain the solemnity of contracts, industrial and commercial administrative and management units are to institute arbitrarion when contracts are not carried out. The impetus behind the agricultural-commercial system in Dazhu County was very much related to that industrial and commercial administrative and management units brought into play the role of authentication, checking, and arbitrarion.

A whole year's plans are decided in the spring, and now the broad masses of peasants and commune and brigade cadres are in process of figuring out how much of what crops they will plant and arranging plans for a year of agricultural production. Rural commercial units everywhere should not miss the opportunity to take the initiative in propagandizing implementation of an agricultural-commercial contract system letting the peasants know a year in advance and making a new contribution to winning a bumper harvest in agriculture this year.

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CSO: 4007/251

ACCOUNTING METHODS READJUSTED TO OUTPUT QUOTAS

Beijing GONGSHE CAIWU in Chinese No 2, 6 Feb 82 pp 22-24

[Article by Economic Management Section, Xiaogan Prefecture CCP Committee Office: "Investigation of Several Problems in Production Team Financial Accounting Work Following Assignment of Output Quotas to Individual Laborers"]

> [Text] Editor's Note: Accompanying promotion of rural systems of responsibility for production has been the rise of new circumstances and new problems in financial accounting work. How accounting work should adapt to new demands following institution of system of responsibility is an important link in current perfection of various systems of responsibility. A look at investigative data from the Xiaogan Prefecture CCP Committee Office as to how to improve and simplify bookkeeping and account reckoning methods for a system of responsibility that links output to individual laborers is a major measure in implementation of these systems of responsibility, which are printed here for the study and reference of all.

Following the linking of output to individual laborers, what new circumstances and new problems appeared in the financial accounting work of production teams, and how should they be solved? With these problems in mind, we recently conducted an investigation at Tuanshan Production Brigade in Pengdian Commune, and at Fengdian Production Brigade in Fengdian Commune, Dawu County. In 1981, eight production teams in these two production brigades instituted collectively managed linking of production to individual laborers. Following the linking of production to individual laborers, except for production plans, management and use of water sources, farmland capital construction, and combat against calamities, all of which bear on the principal farming activities of the entire brigades and were handled by the brigades, most production activities were conducted by the contracting commune members themselves. Following changes in forms of administration, financial accounting work also had to undergo commensurate improvements. For the past year they have explored and accumulated some experiences. Now, as part of year end distributions, further reflection and summarization has been done on financial accounting work during the past year, and the following four reforms effected.

1. Change of Uniform Receipts and Uniform Expenditures To Contracting Sole Responsibility for Receipts and Expenditures

Before the advent of systems of responsibility linking production to individual laborers, the various production management activities were handled by using financial methods of uniform receipts and uniform expenditures. Following the linking of production to individual laborers, contracts linking production were formulated on the basis of fixing output quotas (earnings), fixed work quotas, and sole responsibility for costs. The fixing of output quotas (earnings), and fixed work quotas are, in fact, a fixing of sole responsibility for earnings and expenditures. However, at the outset, there was no understanding on this issue. When advance distributions were made against summer earnings, they were still made on the basis of uniform receipts and uniform expenditures. Earnings were tendered to production steams and expenses were assigned downward; distributions were made only after grain was stored. There were numerous problems in doing things this way, first of which was that the complexity of procedures increased the numerous unnecessary difficulties, resulting in a waste of manpower and material resources. Secondly, some of the grain turned over to families and households was dry and some damp; some was plump and some was not, making for difficulties. Some commune members feared that if they turned over good grain, they might be issued bad grain, so they did not want to turn their grain over to the production team. Furthermore, when households sold grain in excess of quotas, production teams issued affidavits, and when individual commune members sold grain in excess of output, they could get no cash, which hurt their eagerness to sell grain. Consequently, at the time of fall distribution of earnings, excess public grain and agricultural taxes were apportioned among households on the basis of area contracted for, the households selling the grain and settling their own accounts, and consumption grain for commune members being no longer turned over to production teams. Only in this way could the above mentioned conflicts be resolved. However, in the fixing of output quotas, the fixing of work quotas, the fixing of responsibility for costs, and the fixing of public grain quotas, fixing was done only for commune members and not for collectives. Therefore, for expenditures made by the collectives, that meant withdrawal of whatever was to be spent, reimbursement being made for whatever was spent. But there were a large number of loopholes. Take the case of No 6 Production Team in Tuanshan Production Brigade where production expenses greatly declined last year as a result of the fixing of sole responsibility for costs on individual households, falling from 32 percent of gross income during the previous year to 15 percent. However, great waste continued to exist in expenditures for management, more than 110 yuan having been spent as expenses for eating, drinking, and entertainment alone, and cadre subsidies increased an average 12 yuan per person. Because of mass demand, fixing of sole responsibility was also instituted for expenditures by the collective, and one after another the eight production teams changed from the former system of uniform receipts and uniform expenditures. The actual way in which this was done was to fix output quotas (income) and to fix responsibility for costs, using this basis for sharing among households of excess public grain and agricultural taxes according to the area contracted for, to fulfill sole responsibility. Public accumulation fund, public welfare fund, and management expense withholding tasks were done on a household basis, households assuming sole responsibility for tendering them to higher authority. Commune members withheld production expenses for their own use, balancing revenues against expenditures. The portion for distribution to commune members was not turned over to production teams but withheld by commune members in lieu of distribution. Cadre subsidies and office expenses were the sole responsibility of commune members, but if agreed upon amounts were exceeded, commune members bore no further responsibility for payment. At the beginning of each year firm agreements were made, and except for the occurrence of some particularly severe disaster, these agreements were not readjusted. Once responsibility for financial receipts and expenditures were assigned to commune members, production teams no longer did any direct accounting. In this way, financial procedures were greatly simplified. The 12 production teams in Fengdian Production Brigade settled accounts once, the annual assigned output of grain for this brigade being somewhat more than 85,000 jin and cash earnings amounting to somewhat more than 5,000 yuan. After institution of sole responsibility for receipts and expenditures, a lot of dealings back and forth were eliminated and more than 800 fewer entries were made in ledgers. Thus, not only were procedures simplified, and more importantly loopholes in financial work increased, but the method also helped the program of democratic commune operation and operation of communes on a basis of hard work and frugality.

2. Change From Formulation of Plans on the Basis of Actual Output to Formulation of Plans on the Basis of Fixed Output Quotas for Earnings Distributions

Following the linking of output to laborers, on what output (earnings) should plans be formulated for earnings distributions? On actual output or on fixed output quotas? This problem was encountered at the time of advance distribution of summer earnings. At the time of the summer harvest in 1981, we ran a pilot project on earnings advances at Fengdian Production Brigade. At that time some advocated formulation of plans on the basis of fixed output quotas (income), their reasons being that "in linking output to individual laborers, overproduction is rewarded and under production penalized, the responsibility being that of individual commune member households. Formulation of plans on the basis of fixed output quotas (income) and formulation of plans on the basis of actual output are, in fact, the same in their result." Some disagreed with this view saying that "formulation of plans on the basis of fixed output quotas could not reflect the distrbution situation and production results." The result of the controversary was a decision to formulate plans on the basis of actual output. Advances against summer earnings were made on the basis of estimated output with the adoption of a combination of reports from commune members themselves and checks made by production team committees. In using work points as a basis for distributions, those derived from contracted work were figured on the basis of task completion; those obtained from other than contract work were figured on the basis of actual work time. Expenditures were figured according to contract figures. Portions exceeding fixed output were used as commune member bonuses, and portions below fixed output had to be recompensed by production households that had fallen short in delivering quotas, the amount being deducted from distributions to production households in areers.

This investigation revealed that this method was not uniformly followed, the reasons being: 1. Formulation of plans on the basis of actual output meant that transfers of accounts had to be made for amounts over and under quotas, and false income and false expenditures had to be entered into distribution plans and ledgers. Transfer of accounts was complex. Accountants found it hard to learn, and the masses could not make heads or tails of it. 2. Outputs (earnings) could not be readily verified. Some commune members feared showing themselves to be prosperous, feared that bonuses and penalties would not be honored, or feared that next time their output quotas would be fixed at a higher figure, so they were unwilling to report actual outputs. 3. At the present time mass fears of a change in policies have yet to be completely resolved, and house by house inquiries to verify output increased mass apprehensions and impaired the enthusiasm for production of commune members. Therefore, how could formulation of plans on the basis of fixed output quotas reflect the results of a year's production and the distribution situation? Working together with the cadres and commune members of the two production brigades, we studied the following two methods. (1) Statistical accounting. A representative sampling made at year's end to make overall calculations and prepare statistical tables showing production and distributions. (2) Fiscal accounting. In brigades in which the mentality of the masses is good and level of accounting personnel fairly high, a year end house to house registration to be conducted and an entry made in a ledger, the registration table to be used as a voucher for accounting purposes. In the end the eight production teams wanted to use the first method. Everyone said that "this method is easy for accountants to figure and easy for the masses to understand. It is plain and clear, saves a lot of bother and work, and helps consolidate and perfect the system of responsibility linking output to individual laborers."

3. Change from Distributions First and Accounting Later to Beginning of the Year Stringent Formulation of Quarterly Reconciliations

Formerly when the production teams used uniform income and uniform expenditures, distributions were made at year end on the basis of actual output (earnings), actual expenditures, and actual labor used. This determined a system whereby advance distributions were made in summer and fall, and a final accounting made at the end of the year. Following the linking of output to individual laborers, fixing of output quotas, fixing of work quotas, fixing of responsibility for costs, and sole responsibility for receipts and expenditures, plans were formulated on the basis of fixed quotas. Under these new circumstances, should the old method of "distribution first and calculations later" continue to be used? On the basis of a year's experience, and following analysis and summary, it has been decided that beginning in 1982 a system will be implemented for "beginning of the year formulation of plans with quarterly reconciliations". The specific method to be used is as follows. In accordance with the various systems of responsibility linked to output signed by production teams and commune members, and on the basis of pertinent data about fixed output quotas (earings), fixed work quotas, and fixed responsibility for costs, and in accordance with the principle of "concern for the interests of the three" [communes, the collective, and individuals], plans are to be formulated for the entire year about materials (grain, cotton, and oil-bearing crops) and cash distributions. On the basis of the situation for outputs (earnings) contracted by individual households as well as for the "three things retained" (grain rations, seeds, and livestock feed), state procurement quotas, agricultural taxes, and collective withholdings (public accumulation funds, public welfare funds, and management expense) are to be shared by individual households, each household itself witholding seed and production expenses. After procurement quotas, production team withholdings, seeds and livestock feed have been deducted from commune member grain production, the remainder is their own grain ration for consumption. After agricultural taxes, production team withholdings, and production expenses have been deducted from commune member earnings resulting from contracting, the remainder is distributed income. This way of doing things has many advantages. First, it truly achieves "notice a year in advance." Once distribution plans have been formulated at the beginning of the year, both the collective and individual commune members have a basis to work from, and every household can formulate its own plans on the basis of the production team plan. Second, it simplifies distribution procedures. There is no need to formulate further advance distribution plans in summer and fall, but rather simply to perform an economic check up and settle contracts. So long as standards for fixing output quotas remain unchanged, distribution plans require no further changes. Third, at the year end final accounting, there is no further wrangling among commune members as to who got what and who did not get what grain rations. Grain rations for individual hardship households are included in contracts at the beginning of the year and are provided for from collectively withheld grain.

4. Change of Workpoints Gained From Non-Contracted Work to Assignments to be Undertaken, Shortfalls to be Made Up by Individual Households

Institution of systems of responsibility linked to output, all renumeration to be calculated on final labor results, solved egalitarianism in the computation of renumeration of labor. However, workpoints earned from other than contracting, as from capital construction of farmlands or from odd jobs, for instance, were still workpoints figured on time worked. Since work efficiency was generally low, to use them in the same way as fixed work quotas in making distributions was inequitable. In order to solve this problem, in addition to exercising strict control over non-fixed quota work and doing everything possible to expand fixed quota contracting of work, reforms were also made in methods of settling accounts as follows: (1) Cadre allowances were changed from supplemental work points to supplemental money. Workpoints owing as allowances were converted into cash on the basis of average workpoint value, and a firm agreement made at the beginning of the year. Eighty percent was treated as a fixed allowance and 20 percent depended on the the outcome of year-end discussion and appraisal of work performance. (2) Allowances for capital construction of farmlands and for doing odd jobs were shared, on the basis of the area contracted, among individual households who had responsibility for paying them by mutually making up shortfalls, no sharing in distributions permitted.

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NEW EMPHASIS GIVEN RURAL COST ACCOUNTING

Beijing GONGSHE CAIMAO in Chinese No 2 1982 p 42

[Article by Xi Shuren [5977 2885 0088]: "Ministry of Agriculture Convenes Symposium for Farm Products Cost Accounting Points"]

[Text] In November 1981, the Ministry of Agriculture convened a National Symposium for Farm Products Cost Accounting Points at Xiangtan in Hunan Province. Special cadres in charge of this work in each province, municipality, and autonomous region, some operating point cadres, teachers from institutions concerned and research workers summarized and exchanged operating point work experiences at the conference, and studied problems in how to do a further good job of farm products cost accounting in a situation in which rural villages have instituted various forms of production responsibility systems.

In the 2 years since the beginning of agricultural cost accounting, a great amount of work has been done under the leadership of all levels of government, and as a result of active efforts made by grassroots cadres, commune members, and operating point cadres. Throughout the country, with the exception of Tibet (Taiwan not counted), 275 points are in operation. In addition, localities are operating another 1,237 points. According to incomplete statistics, 179 cadres have been relieved of other duties in preparation to operate points, and 4,739 people at various pilot point communes and brigades have had an elementary education in agricultural product cost accounting work. Some production teams having a large proportion of fruit trees, fisheries, tea, silkworm mulberry, and flue-cured tobacco have begun to list these items in their accounts. In the suburbs of Beijing, Tianjin, and Shanghai vegetable cost accounting has been instituted, and in the pastoral areas of Nei Monggol, livestock product cost accounting pilot projects have begun to operate. In addition, a survey of living expenses needed by workforces for reproduction, and a collation of 1980 agricultural products cost accounting data are underway to provide important figures on commune member earnings and expenditures, and on costs of producing farm corps. This has received serious attention from leaders at all levels, and has been welcomed by research units concerned. On the basis of actual expenditures for labor and materials, some points have established blueprints for labor quotas and expenditure quotas. Some places have used this as a basis for signing contracts with commune members that fix work quotas, fix output quotas, or fix investment to promote perfection and uplifting of production responsibility systems.

Comrades attending the conference used a large body of acts to show that practice of agricultural product cost accounting play an active role in formulation of equitable quotas, tapping labor potential, conservation in all kinds of expenses, equitably arranging planting plans, improving administration and management, promoting the extension of science and technology, and in bringing about increased output and increased earnings. Budgetary estimates from 183 pilot point units in 24 provinces, municipalities and regions shows the following comparisons between 1981 and 1980: Agricultural earnings increased 10.6 percent; expenditures for agricultural production expenses decreased 4.8 percent; collective accumulations increased 14.10 percent; commune member distributions increased 12 percent; and average per capita earnings increased by 17.50 yuan. For every 100 yuan invested for production expenses (materials), agricultural earnings rose from 276 yuan in 1980 to 321 yuan in 1981, an increase of 16.3 percent. Gross earnings derived from the investment of each workday rose from 1.59 yuan in 1980 to 1.79 yuan in 1981, an increase of 12.6 percent. Numerous facts show that no matter whether in South China or North China, or in bumper years or lean years, and no matter the system of responsibility practiced, given the same conditions, greater economic results come from units with cost accounting as compared with units without cost accounting.

The conference emphasized briefings on how agricultural product cost accounting was carried out following institution of various forms of responsibility systems. Many comrades used vivid facts to demonstrate that both cost accounting and production responsibility systems are both important integral parts of administration and management. Implementation of cost accounting on a foundation of various kinds of production responsibility systems can more accurately and more concretely measure economic results, thereby promoting the perfection of production responsibility systems. Perfection of production responsibility systems creates, in turn, conditions for strengthening cost accounting, enhancing cost control, and reducing product costs. Consequently, even though most cost data in some production teams has to be obtained from individual households, continued good work of agricultural cost accounting in these production teams is also very significant. Everyone acknowledged that the basic theories, basic principles, and basic methods contained in National Agricultural Commission 1979 document number (62) pertaining to the stipulation and formulation of "Plans" are still applicable. However, as a result of the development of diverse forms of production responsibility systems, collection and collation of data and certain accounting methods require corresponding changes.

The symposium also studied and took action on the strengthening of leadership of this work, on suitable increases in some pilot project units, on doing a good job of training and the compilation and analysis of cost data, and on survey of living expenses required by workforces for reproduction.

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BRIEFS

DONGSHAN COUNTY SPRING GRAIN--A bumper harvest of spring grain has been reported from Dongshan County, Fujian Province. The total output shows a 20 percent increase over last year, while the average per-mu yield is 39 jin more than last year's figure. As of 16 April, the county had fulfilled 25 percent of this year's spring grain procurement quota. [OW281257 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 24 Apr 82]

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BRIEFS

PROVINCIAL AFFORESTATION--According to the Provincial Afforestation Commission, Gansu Province had afforested 230,000 mu of lands, up 46.4 percent, grown 20,000 mu of saplings, up 184.0 percent, and planted 14 million trees by the sides of highways and farmlands and around lakes and houses, up 18.7 percent compared to the corresponding 1981 period. Over 14 million trees had been voluntarily planted by the people. [SK150150 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 13 Apr 82]

HOG PRODUCTION POLICY--The Gansu Provincial People's Government recently issued a circular urging government organs at all levels to strengthen leadership over hog production and stabilize various policies on hog production. The circular emphasizes: It is not permitted to arbitrarily change policies on hog procurement, prices, awards sales and collective fodder distribution adopted by the state and the province. The state's purchasing departments should sign contracts with production brigades assigning production quotas to them and promising them a purchase. [SK180958 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 16 Apr 82]

SUGARBEET PLANTING--Wuwei, Zhangye and Jiuquan prefectures have planted 85,000 mu of sugarbeets in accordance with the state plan, 10,000 mu more than planted in 1981. [SK180952 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 16 Apr 82]

PROVINCE HIT BY EARTHQUAKE--According to our sources, based on the determination of the provincial seismic network, at 1436 on 14 April an earthquake measuring 5.7 on the Richter scale hit places east of Zhenyuan County and where Gansu and Ningxia Provinces meet. According to preliminary estimates, the magnitude of the seismic disturbance in Zhenyuan County's (Fuxin) commune was stronger than in other places and part of walls there were cracked and damaged slightly. No injuries and deaths have been reported. The details are under investigation. After the earthquake, the Provincial Seismic Bureau immediately held an emergency meeting. The meeting decided to send professional personnel to conduct on-the-spot investigations. Discussions at the meeting pointed out that there will be no disruptive earthquake in Zhenyuan County in the near future. [Text] [SK160703 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 15 Apr 82]

VEGETABLE PRICES--The Lanzhou Municipal Pricing Committee in Gansu Province recently decided to set ceiling prices on several vegetables sold at farm produce markets. Twenty-two vegetables including chives, spinach, cucumbers, and eggplant have their prices limited. The prices of these vegetables are not allowed to be sold at prices 50 percent higher than the state retail list prices. [SK142207 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 13 Apr 82]

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BRIEFS

METEOROLOGICAL WORK CONFERENCE--The Guangdong provincial meteorological work conference and the provincial meeting of progressives in meteorological work were held in Guangzhou from 1 to 8 April. The conference looked into this year's work. The conference selected 23 advanced collectives and 34 advanced workers in meteorological work. In addition, the Provincial Meteorological Bureau commended and awarded prizes to 10 advanced meteorological posts, including Bingcun commune meteorological post in Mei County. The conference demanded that meteorological departments at all levels seriously do well in capital construction of the meteorological forces, training work and improving the technical and professional levels of the meteorological forces. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 8 Apr 82]

SPRING FARMING--According to the statistics, by 12 March Guangdong Province had sown some 283 million jin of early-rice seeds, fulfilling 56 percent of the quota. Shantou Prefecture and Zhuhai Municipality had completed their spring sowing quotas. Foshan Prefecture and Shenzhen Municipality had sown some 70 percent of their quota of early-rice seeds. Hainan Island, whose season comes relatively early, had transplanted early rice on 2.13 million mu, 81 percent of the planned early-rice fields. All localities throughout the province had cultivated more and better spring-sown crops than in the corresponding period of last year. [HK241219 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 22 Mar 82]

CHEMICAL FERTILIZER PRODUCTION--Guangdong Province produced some 165,000 tons of chemical fertilizers in the first quarter of this year, overfulfilling its quarterly quota by 13.9 percent. Output in the first quarter of this year was 12.5 percent more than in the corresponding period of last year. Three large and medium-size backbone chemical fertilizer enterprises--Guangzhou petrochemical works, Guangzhou nitrogenous fertilizer plant and Zhanjiang chemical works--overfulfilled their quotas for chemical fertilizer production for the first quarter. Production of urea in Guangzhou petrochemical works increased by 41.8 percent. Output of all small chemical fertilizer plants throughout the province was also more than in the corresponding period of last year. The consumption of oil for the production of each ton of synthetic ammonia in Guangzhou petrochemical works dropped by 25 kg. The consumption of sulphuric acid for the production of each ton of phosphatic fertilizer dropped by 117 kg. The consumption of coal for the production of each ton of synthetic ammonia in all small nitrogenous fertilizer plants throughout the province dropped by 62 kg and the consumption of electricity dropped by 77 kilowatt-hours. Due to the increase of production and the reduction of consumption, the chemical fertilizer trade in the whole province made a profit of 3.86 million yuan in January and February this year. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 9 Apr 82]

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BRIEFS

SUGAR OUTPUT--Guangxi has increased sugar production during the 1981-82 refining season. According to statistics from the region's 78 operating refineries, by 25 March the region had refined 3.94 million tons of cane and produced 454,000 tons of sugar, an increase of 13.96 percent compared with the same time last year. [HK100834 Nanning Guangxi Regional Service in Mandarin 1100 GMT 3 Apr 82]

FORESTRY BASES--Guangxi region achieved remarkable results in building forestry bases in 1981. The region's China fir bases planted fir trees on some 714,000 mu in 1981, 14.1 percent more than in 1980. Its oil-bearing plant bases afforested some 512,000 mu in 1981 and the afforested areas of the tong tree and anise bases in 1981 were some 20 percent more than in 1980. [HK120745 Nanning Guangxi Regional Service in Mandarin 1100 GMT 11 Mar 82]

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BRIEFS

AGRICULTURAL, SIDELINE PRODUCTS--The total purchase value of agricultural and sideline products in Guizhou Province in 1981 reached 1.12 billion yuan, 48.8 percent more than in 1980. Excluding the rise in prices, the total purchase value in 1981 was actually 33.7 percent more than in 1980. The income of each person in the agricultural population derived from the sale of agricultural and sideline products to the state increased from 27.8 yuan in 1978 to 45 yuan in 1981, an increase of 17.2 yuan. [Ugiyang Guizhou Provincial Service in Mandarin 2315 GMT 27 Mar 82]

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PARTY POLICIES REPORTEDLY PUT POOR COUNTY ON ROAD TO RICHES

Shijiazhuang HEBEI RIBAO in Chinese 29 Jan 82 p 1

[Article by Zheng Tong [6774 1749] and Jin Youxin [7246 2589 2450]: "Considerable Changes Appear in 'High Yield Poor County' Situation of Zhengding County. Promotes Responsibility System, Diversifies Into Cotton, and Develop Economic Diversification"]

[Text] Zhengding County has diligently implemented the line, the programs, and the policies of the Third Plenary Session [of the 11th Party Central Committee] to effect considerable changes in its situation of being a "high yield poor county." In 1981, despite prolonged and serious drought, agricultural output showed tremendous increase over 1978 when the weather was excellent. Grain showed steady development, total cotton output increased 2.4 times; fats and oils increased by 79 percent; netearnings from agriculture increased 49.2 percent; commune member grain rations increased from 458 jin to 530 jin; average per capita income increased 55.6 percent; commune members savings deposits increased 1.2 fold, and peasant purchasing power increased more than sixfold.

Several years ago Zhengding County had been rather seriously affected by "leftism." It practiced single crop agriculture; production was done without calculating costs; unrealistically high output quotas and state procurement quotas were set, and though grain yields were greater than 1,000 jin, commune members had no money in their pockets and no grain in their homes. By 1978, half the peasant households in the county went outside the county to buy high-priced grain, and it became a notorious "high yield poor county." Following the Third Plenary Session, the County CCP Committee and county government summarized the lessons of experience in a realistic way, cleared away "leftist" influences, and diligently put into effect the party's policies, bringing about a upturn throughout the county's rural villages.

First they promoted and put in place agricultural production responsibility systems linking output to calculation of remumeration. Today, 1,820 of the county's 1,999 production teams practice various forms of production responsibility systems. Several years ago labor efficiency was low and costs of producing grain and cotton were high in Sanjiaocun Production Brigade, which has high yields of both grain and cotton. It was renowned throughout the country as a high yield poor county. After grain and cotton output in 1981 increased by 360,000 jin over 1978; cotton output increased 1.1 times; net earnings increased by 545,000 yuan; production expenses fell by 45,000 yuan, and average per capita standards of living rose from 111 yuan to 240 yuan. In the space of 2 short years following institution of responsibility systems, the situation in 216 poor production teams in the county changed.

Second was readjustment of the internal structure of agriculture; vigorous efforts going to development of cotton production with gradual compensations being made in development of grain and economic crops. Formerly, as a result of grain squeezing out cotton, the area sown to cotton fell from 190,000 mu to slightly more than 120,000 mu, and yields dropped from 120 jin per mu in 1971 to 35 jin in 1978. Following the Third Plenary Session, while stabilizing grain output, they took the cottom situation firmly in hand. In 1981, earnings from cotton alone averaged 65 yuan per capita, and tremendous increases also occurred in oil-bearing crops. Average annual per capita consumption of edible oil rose from the former 1.5 jin to more than 6 jin. In numerous communes and brigades grain and cotton also increased.

Third was development of economically diversified production mostly in the form of household sideline industries, which opened a main gate to curing poverty and becoming prosperous. Throughout the county appeared large numbers of "outstanding households," who had become prosperous first. This county has an average 1.4 mu of land per capita. Figuring one member of the workforce to farm 5 mu of land, 47 percent of the workforce is surplus to needs. However, some years ago, this surplus labor was not permitted to engage in industrial sideline production and people were restricted to the limited amount of land where they dawdled in poverty. Now that the County CCP Committee and county government have raised the slogan of "liberate the mentality and dare to become rich," the surplus workforce has shown its mettle, and breeding industries, processing industries, and planting industries have burgeoned. From the Standing Committee of the County CCP Committee to ordinary cadres relieved of production duties, everybody is devoted to "helping enrich households." More than 90 percent of peasants are engaged in diverse household sideline occupations such as raising milk cows, raising goats and sheep, raising rabbits, raising chickens, raising martens, growing flowers, or raising fish.

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BRIEFS

DAIRY PRODUCTS--By the end of March, Heilongjiang Province had produced 4,740 tons of dairy products, up 38.5 percent over corresponding 1981 period and an all-time high. According to incomplete statistics, the province's 16 key dairy enterprises had yielded 4.43 million yuan in profits, up 10 times over the corresponding 1981 period. [SK200954 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 19 Apr 82]

PROVINCIAL AFFORESTATION--As of 19 April, Heilongjiang Province had built 300,000 mu of shelter belts and planted 400,000 trees. Heilongjiang Province plans to afforest 3.5 million mu of land and grow 2 billion saplings this year. [SK200950 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 19 Apr 82]

WHEAT PLANTATION--Hejiang Prefecture, Heilongjiang Province, plagued by flooding last year and spring waterlogging this year, has successfully fulfilled its 1982 wheat sowing plant. By 16 April, the prefecture sowed over 2.97 million mu of wheat. [SK190608 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 18 Apr 82]

WHEAT SOWING--By 9 April, Heilongjiang had fulfilled 51 percent of its wheat sowing target by sowing 15.6 million mu, 3.7 million mu more than in the corresponding 1981 period. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 10 Apr 82]

SPRING WHEAT--Harbin, 6 Apr (XINHUA)--Heilongjiang had sown spring wheat on 3 million mu by 1 April, an increase of 1 million mu over the corresponding period last year. [OW071251 Beijing XINHUA Domestic Service in Chinese 0111 GMT 6 Apr 82]

SPRING SOWING--While planting wheat, rural communes and brigades and state farms in Heilongjiang Province have lost no opportunity to plant field crops. As of 15 April, the province had planted field crops and such cash crops as flax and sugarbeets on 1.86 million mu of land, an increase of 625,000 mu over the corresponding 1981 period. [SK190838 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 18 Apr 82]

FARM PRODUCE EXPORT--In 1981 Heilongjiang exported 150,000 tons of soybeans and 43,000 tons of flax, more than 80 percent of the total flax exported by the country. Heilongjiang also exports vegetables, wild plants, medicinal herbs, Chinese medicines and fur products. Every year the province exports about 7,000 tons of vegetables and wild plants. It earns $100 million from exporting medicinal herbs and Chinese medicines and $2.7 million from fur products annually. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 9 Apr 82]

PROVINCE REPAIRS DAMS--Among the 297 river dams damaged by floods last year, 226 dams--or 91 percent--have been repaired, resuming irrigation for 1.55 million mu of farmlands in our province. Of the restoration construction, 30 percent was built with funds raised by the masses. [SK090520 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 8 Apr 82]

COUNTY FIELD CROPS--Having fulfilled the wheat sowing task, Bayan County, Heilongjiang Province, has shifted its attention to sowing field crops in a timely manner. As of 15 April, the county had sowed 114,000 mu of field crops. [SK180900 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 17 Apr 82]

DAIRY-FARM PLANNING--The China National Technical Import Corporation has formally signed a loan contract with the Denmark Dairy Product Equipment Corporation on technical assistance and equipment supply for building the No 2 Heilongjiang provincial dairy product plant at Anda County in the province. Under the contract, the Danish Government offers a 25-year interest-free loan of 15 million yuan. The plant's acreage is 100,000 square meters. The plant's daily production capacity would be 200 tons of fresh milk, and major products include milk powder, nonfat milk powder and butter. The annual output of these products would be 7,000 tons. The plant would be expected to make an annual profit of 11 million yuan. Ground breaking for this plant will be held in the second quarter of this year. Construction work will be completed in 1985. [Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 6 Apr 82]

COUNTY WHEAT SOWING--By 8 April Tangyuan County in Heilongjiang had sown 170,000 mu of wheat, overfulfilling its wheat sowing plan by 14.8 percent. [SK101111 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 9 Apr 82]

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BRIEFS

RURAL INCOME--Hunan reaped an all-round bumper harvest last year despite various natural disasters. The peasants' average distribution income exceeded 100 yuan for the first time. According to statistics, total income of the basic rural accounting units in the province was 7.963 billion yuan, an increase of 451 million yuan over 1980. This represented an average income of 172.9 yuan per head of population taking part in the distribution. [HK100710 Changsha Hunan Provincial Service in Mandarin 2310 GMT 2 Apr 82]

AGRICULTURAL PRODUCT REGULATIONS--To strengthen the planned management of the first and second-category agricultural and sideline products, the Hunan Provincial Government recently formulated regulations on export of agricultural and sideline products from the province. The regulations point out that when the first and second-category agricultural and sideline products are exported from the province, it must be reported to the relevant provincial departments for examination. After the departments agree, they issue export licences. Otherwise, railway, road, civil aviation and shipping departments are not allowed to transport them and banks are not allowed to settle accounts. When an individual carries, asks others to carry or mails staple agricultural and sideline products out of the province, the quantity must be limited: not more than 40 jin of rice, not more than 20 jin of beans, not more than 10 jin of oil, not more than 20 jin of pork, beef, eggs and fresh fish and not more than 5 jin of tea, flue-cured tobacco and day lily. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 4 Apr 82]

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CITRUS PRODUCTION EXPANDS IN TAI HU AREA

Nanjing XINHUA RIBAO in Chinese 21 Jan 82 p 2

[Article: "Jiangsu Citrus Production Last Year Reached 15,500 Tons"]

[Text] For the past several years, some countries and municipalities in Jiangsu along the banks of the Tai Hu have made a certain amount of progress in combatting cold and frost to cultivate citrus. Statistics show that last year the province's total citrus production exceeded 15,500 tons, up over 500 tons from the bumper 1979 crop and a historical record.

The area along the Tai Hu is on the northern edge of the semitropical zone and frequently suffers from frost. Nonetheless the low hilly areas of some regions are relatively suited to the production of citrus due to the regulatory influence of the atmospheric moisture of the lake. Over the past several years, the relevant production, scientific research and educational departments carried out numerous on-the-spot investigations and helped the communes, brigades and teams in the hilly and mountain areas around the Tai Hu to develop citrus production in keeping with local conditions. The suburban areas of Wuxi and Wu county also set up over 70 weather observation sites in their orchards and nurseries in order to select regions which were most suited microclimatically to citrus.

In order to avoid frost damage effectively and ensure that the citrus crop passes safely through the winter, the communes, brigades and teams in the citrus districts have paid attention to selecting varieties which have a relatively strong adaptability. The horticultural office of the provincial institute of agricultural sciences and the fruit tree office of Wu county have worked for 7 years in a row to select 10 fine single plants, including the cold resistant, early ripening Zaohong No 2 and the seedless, early ripening Wenzhou 57-5 mandarin orange. These fine single plants have grown well despite numerous incidents of low temperatures of 8.3-8.7 degrees below zero. The Jiangsu Department of Agriculture and Forestry has allocated funds to set up points in Wu county, Wuxi municipality and Wujin county and for establishing a 30 mou nursery for selecting good graft varieties, in order to supply good scions for propagation.

11723
CSO: 4007/242

EDITORIAL URGES STABILIZATION OF GRAIN PRODUCTION

Nanjing XINHUA RIBAO in Chinese 19 Jan 82 p 1

[Editorial: "We Must Pay Close Attention to Grain Production"]

[Text] A strategic task facing the rural cadres and masses throughout the province during the new year is to continue to carry out intact the policy "in no way relax grain production while actively diversifying economically" and pay close attention to grain production, guaranteeing its stable growth while at the same time making full use of various resources to further carry out economic diversification. This is an important material base for further consolidating and developing the political situation of stability and unity and promoting the smooth development of various construction activities.

Grain is the "treasure among treasures." "With grain in hand, you feel quite grand." "When the granaries are full, there's prosperity in all." There is a great deal of truth in these wise remarks of those with experience. For a number of years the livelihood of our province's people has been stable and there has been a rapid development in agriculture, forestry, animal husbandry, sidelines and fishery. A vital factor in this growth has been our maintaining a certain level of growth in grain output. Practice has shown that grain is an important economic advantage of Jiangsu. We must continue to make use of this advantage and in no way weaken it.

Under the new situation, however, some comrades have had muddled thinking about whether or not to continue to pay close attention to grain production or to strive for continued stable growth in grain output. Some feel that the grain problem has already been solved basically and that the most pressing task now is to increase economic income, producing an attitude of "go for money, not for grain." It is proper to strive to increase the economic income of the collectives, but we definitely cannot as a result weaken grain production. Because the people of Jiangsu did away with the interference and sabotage of the Lin Biao and Jiang Qing counterrevolutionary cliques, our grain production situation has been relatively good since the 1970s. In general, however, our grain output level is still low and still is far from meeting the needs of national economic development and continual improvements in the standard of living. Last year was the second highest bumper grain harvest in Jiangsu since liberation, but it was only 770 jin per capita. The situation is rather tight in various aspects. Matters have even gotten a bit more difficult in some places where grain has fallen consecutively over the past two years. Therefore we cannot let up in the slightest on grain production.

Some comrades set the development of grain and of economic diversification in opposition to each other, claiming that "if grain does not go down, it is hard for diversification to come up; and if economic diversification is to go up, grain production must come down." These comrades ignore the mutual reinforcement and promotion of grain production and economic diversification. Our basic guiding policy in agricultural development is "in no way relax grain production while actively diversifying economically." We must carry it out in a comprehensive manner. Grain output must persist in increasing and diversification must also develop further. There is still a great potential for economic diversification. Barren mountains, earthen hillocks and water surfaces in many places are not yet utilized thoroughly. Thus it is entirely possible to strive to maintain a relatively rapid development of a diversified economy at the same time that great efforts are expended on guaranteeing a stable growth in grain. In developing a diversified economy, we definitely cannot fix our eyes on the grain fields and occupy any more of them to change over to economic crops. The peasants desire prosperity and to increase their incomes, but this cannot be done by tossing out grain production. If grain production is not done well, it is impossible to diversify the economy as well. At present, some places cannot guarantee a supply of fodder because grain is too short. The development of feed has already been affected. This is worth thinking deeply about. In sum, if grain does not go up it will affect arrangements for people's livelihood, economic diversification and the development of the entire national economy. This is an enormous problem which is not only economic but also political. Leaders at all levels, including brigade and team cadres, must keep a clear head about this.

Other comrades say that we must respect the production teams' right of self-determination. Cropping plans are determined by the production teams, so whatever everyone wants to grow is what is planted. This opinion is also one-sided. The party's policies stipulate that the production teams, persisting in a socialist direction, should carry out the policies, laws and decrees of the state and, under the precondition of receiving the leadership of the state plan, plant in keeping with local conditions. This does not mean planting whatever one thinks of. Grain is a principal product which affects the national economy and the people's livelihood and its production should be carried out according to the leadership of the state plan. At present, all parts of Jiangsu have already done large-scale contracting of state grain purchase quotas. This contracting per se embodies the plans of the state and has a directive nature. The contracted quotas must be resolutely fulfilled. When each locality arranges its cropping plan it must first of all consider

When each locality arranges its cropping plan it must first of all consider the fulfillment of the contracted grain quotas. This must be a precondition for making good arrangements for agricultural production.

In striving for a stable increase in grain production we must first of all stabilize the cultivated and sown areas of grain. At the present level of technology, grain output cannot increase stably without guaranteeing it a certain acreage. It is necessary to make appropriate readjustments in the grain acreage in a planned way in order to develop economic crops. In the past several years, our province has already made a large readjustment in agricultural arrangements, resulting in a considerable decline in cultivated and sown grain area. Now the internal structure of agriculture tends to be rational in general. Therefore we must rely in the main on increases in yields per unit area and on opening up as yet unutilized resources when we develop our economic crops. We definitely cannot put the squeeze on any more grain land. The spatial arrangement of grain crops this year should be set at last year's level and the sown area of grain cannot be reduced any further. The summer-ripening crops are already in the fields, so the key is in allocations for spring sowing. Every locality must get a good handle on this.

Guaranteeing a stable increase in grain is the glorious mission of the broad masses of rural cadres and peasants in the villages of our province. Each locality must proceed from reality in making arrangements. In particular, it must stabilize and perfect the various forms of production responsibility systems. The Taihu basin is the principal commodity grain base of Jiangsu. It should persist in taking agriculture as its basis and use industry to supplement agriculture, sidelines to promote it, guaranteeing and stabilizing the labor power devoted to growing grain by further mobilizing their activism so that they use every possible means to bring grain production up. The Lixiahe area is the belly of Jiangsu, with fertile soil and a large potential for output increases. It should guarantee that grain production continues to increase on the basis of its successive years of bumper harvests. The Xuhuai area has come up rapidly in recent years and should further unearth its potential and make more contributions through increasing grain output.

11723
CSO: 4007/242

JIANGSU AGRICULTURAL SCIENTISTS INVESTIGATE WHEAT FIELD MANAGEMENT

Nanjing XINHUA RIBAO in Chinese 21 Jan 82 p 1

[Article: "Pay Close Attention to Current Wheat Field Management"]

[Text] Comrades of the Wheat Cultivation Laboratory of the Jiangsu Institute of Agricultural Science recently worked together with agricultural scientists and technicians of the provincial Department of Agriculture and Forestry; Yanziji Commune, Nanjing Municipality; Xinba and Lianhe communes, Yangzhong County; and Agricultural Bureau and Furong Commune, Wujin County to carry out an inspection of the overwintering crop conditions at several model units in the Zhenjiang hilly wheat region, the wheat region along the Chang Jiang and the Tai He wheat region, looking at their intermediate experimental demonstration plots in high-yield cultivation of the "three wheats" [wheat, barley and oats]. They checked out the conditions of the crops and of winter management on the larger fields as well, and studied measures for field management.

The general characteristics of "three wheat" production are as follows: A sufficient area has been planted, basically the number of sprouts exceeds previous years, and in wheat field management, activities have been prompt and down-to-earth, with good quality and a fast pace. Nonetheless, during the sowing stage last fall, the percentage of soggy cultivation and planting was large and the season was delayed, producing relatively more late sprouts, dragging out the evening up period when the sprouts appeared as temperatures were low, delaying the pace of leafing and tillering. From last November to date there has been a long drought, preventing the wheat sprouts from growing strong during the winter. With these conditions where excess surface water was followed by drought and low temperatures, several problems have arisen to affect the "three wheats." First, growth before the winter was at a minimum, with an insufficient number of sprouts and poor quality. From mid-October to the end of November, precisely the most critical sowing period, there was unfavorable weather prolonging the sowing period. Autumn sowing was not completed in the southern Jiangsu area until the end of November. After the sowing was complete there was continuous low temperature drawing out the evening-up period of the sprouts, with slow leafing and tillering, further limiting the amount of growth.

Second, drought affected winter strengthening and development. In wheat fields which received neither rain nor irrigation water for a long period, the water content of the soil from 0-5 cm was only 6.7 percent, and that of the tilled layer from 5-15 cm was but 4.1 percent. This seriously affected the rooting, leaving and tillering of the wheat sprouts. The area of tiller-bearing overwintering sprouts was greatly reduced this year, being only 35 percent in Yangzhong County and 30 percent in Wujin County, the latter a reduction of 28 percent over the same period the previous year.

Third, the unevenness of the sprout conditions is relatively widespread. Some cadres in the commune sector who have problems in understanding how to implement the production responsibility systems have relaxed their leadership over current production. Some commune sector comrades have paid more attention to managing industry and diversified economic operations and have relaxed wheat field management.

Given these current crop conditions and problems, the agricultural technicians participating in the inspection made the following proposals. First, apply fertilizer to promote strengthening and strive for winter development. Closely tend to field management before the spring, with a topdressing on the early crops to promote growth and strive for winter development and a uniform application of liquid fertilizer on the late crops to maintain full stands of seedlings through the winter and strive for lower level tillering in the early spring, working in every way to increase the total number of seedlings and strive for a high production of ears. Second, promote the seedlings in resisting drought and use water to transfer fertilizer. We must take advantage of the present favorable opportunity of the higher temperatures to apply fertilizer rapidly to resist drought, using more water than fertilizer and using the water to transfer the fertilizer and energetically promote winter development. Places with suitable conditions should thoroughly utilize sprinkler irrigation. Places without sprinkler irrigation should fill the outer three ditches with irrigation water using irrigation and drainage machinery and then carry water to sprinkle the fields, being sure not to flood the fields, creating a hardpan which would kill the seedlings. Third, loosen the soil and eliminate weed dangers. Taking advantage of the clear weather, we should weed and loosen the soil, aerating it and increasing its temperature so as to eliminate weeds and promote sprout development. The weed danger must be eliminated before the spring or weeds will flourish later, possibly leading to large areas being taken over by weeds, inducing pest infestations and causing a reduction in output. Fourth, tamp down the wheat and clean out the ditches to regulate soil moisture. Places with appropriate conditions should apply a layer of mud to cover the roots of the wheat and protect the tillering joints. Most of the fields should have a general tamping or pressing down of the wheat, with the upturned soil broken up to close the cracks in the soil and cover the tillering joints, improving the conditions for root system growth and protecting the wheat seedlings in overwintering.

The standards for complete sets of field ditches in the wheat fields have fallen this year compared with the past. Places which have assigned output quotas to individual able-bodied laborers have even more variable conditions. In order to prevent spring waterlogging, they must at the same time do a good job of taking care of soil moisture and putting ditches in order.

11723
CSO: 4007/242

SUZHOU WINTER CROP MANAGEMENT SUCCESSES RECOUNTED

Nanjing XINHUA RIBAO in Chinese 19 Jan 82 p 1

[Article by the Reporting Station, Suzhou Administrative Office: "Suzhou Prefecture Strengthens Management of Overwintering Crops"]

[Text] Winter crop field management in Suzhou Prefecture has been done on time this year and seedling conditions are generally good. As of the beginning of this month, over 80 percent of the prefecture's 3.59 million mu of "three wheat" [wheat, barley and oats] fields have had additional labor applied to pressing down the wheat, had a topdressing of cured fertilizer and had ditches cleaned to regulate soil moisture. The soil has been loosened and heaped around the roots, together with a topdressing of fertilizer on over 80 percent of the 1.1 million mu of rapeseed. Many communes, brigades and teams in Kunshan, Wujiang, Taicang, Wuxian, Wuxi and Jiangyin counties have restored the old tradition of irrigating with river silt. This was seldom done in recent years.

This year we got our thinking going early on winter field management in Suzhou Prefecture, with the leadership at all levels being relatively clear about the leading thinking of taking agriculture as the basis. By linking it with honoring its commitments on distribution and encouraging the masses to do a good job of current production, both the pace and quality of winter field management has exceeded previous years in Kunshan County. Wu County has made full use of its model, Hongxing Brigade of Huangdai Commune, to fan a quick upsurge in field management. Some advanced units, such as Huaxi Brigade in Jiangyin County, have already wrapped up their field management of summer-ripening crops. Many communes, brigades and teams have also done a crash job of doing supplementary management of wheat which was planted in damp, muddy soil and of the three kinds of seedlings so as to promote a transformation and balance. After a period of crash work, 45 percent of the 690,000 mu of three kinds of seedlings of the three wheats in the prefecture have been transformed and upgraded.

11723
CSO: 4007/242

PRC TRAINING FOREIGN FISHERY TECHNICIANS

OW151137 Beijing XINHUA in English 0751 GMT 15 Apr 82

[Text] Beijing, April 15 (XINHUA)--The second fresh-water fish breeding technique training course for technicians from developing countries opened today in Wuxi, Jiangsu Province, according to the state administration of aquatic products.

The four-month course is sponsored under a cooperation plan between China and the United Nations development program. The nine trainees are from Burma, Malaysia, Pakistan, Papua New Guinea, Sri Lanka and Thailand. The first course ran from June to October 1981.

The trainees will study controlled breeding in fish hatcheries, development of new fish strains, fish breeding and management and prevention of fish diseases. Experts from the Yangtze River Aquatic Products Research Institute will lecture on the techniques to promote fishery, crop growth and poultry and domestic animal breeding. Trainees will do field work in Guangdong Province.

China's 1981 fresh-water fish catch came to 1.37 million tons, ranking first in the world. In recent years, Chinese fish breeding experts have passed on techniques to their counterparts in the developing countries. Experts from Britain, France and the United States have also studied fresh-water fish breeding in China.

Since 1975, China has trained 159 fishery officials and technicians from developing countries, according to the state administration of aquatic products.

CSO: 4020/120

BRIEFS

AQUATIC PRODUCTS INCREASE IN JIANGSU--Aquatic products enterprises have continued to grow in Jiangsu Province during the past year. Output of aquatic products has overfulfilled plan and has set an all-time high; aquatic products procurement plans have been overfulfilled; and quantity of aquatic products sent to market has increased. Last year all echelons of government further strengthened leadership of aquatic products work. Everywhere mentality was emancipated and policies liberalized in water surface use rights, in programs for development of aquatic products, and in methods of administration. Reliance was placed on science and attention was given arousal of positive factors everywhere, thereby gradually bringing about improvements in the fishing industry's structure for production, its system of administration, and channels of circulation. Pace of growth in the raising of freshwater fish accelerated, the raising of fish by production teams and households receiving particularly serious attention. The freshwater fish raising area in the province was increased by more than 100,000 mu over what it had been in 1980, and output increased by nearly 120,000 tons, making 1980 the year of greatest increase in production during the past few years. Simultaneous with the stringent efforts made in aquatic products production, all levels of aquatic products units devoted attention to doing a good job in procurement, supply, and marketing of aquatic products. [Text] [Nanjing XINHUA RIBAO in Chinese 22 Jan 82 p 2] 9432

HOG RAISING--Nanjing, 6 Apr (XINHUA)--Jiangsu has seen an upturn in hog breeding. The number of hogs in stock in January and February increased by 1.5 million head over the corresponding period last year. Over the past few years, Jiangsu has sold the state 17 million to 18 million hogs each year. [Beijing XINHUA Domestic Service in Chinese 0114 GMT 6 Apr 82]

CSO: 4007/382

BRIEFS

ANYUAN COUNTY EARLY RICE--Transplanting of early rice seedlings is underway in Anyuan County, Jiangxi. The county will grow 153,000 mu of early rice this year. As of mid-April, about 40 percent of the transplanting was completed. [OW251325 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Apr 82 OW]

FENGCHENG COUNTY SOYBEANS--As of 17 April, more than 96,000 mu of land had been planted to early soybeans in Fengcheng County, Jiangxi, an increase of 9,000 mu over the same period last year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Apr 82 OW]

CSO: 4007/375

BRIEFS

PROVINCIAL SOWING--As of 15 April, Jilin Province had planted 3,525,000 mu of wheat, minor oil-bearing crops and various field crops, 450,000 mu more than in the corresponding 1981 period. Some 124,000 mu of paddy rice seedlings had been grown, accounting for over 40 percent of the paddy rice seedling plan. [SK171420 Changchun Jilin Provincial Service in Mandarin 1100 GMT 16 Apr 82]

WET GRAIN DISPOSITION--Grain departments at all levels throughout Jilin Province are drying wet grains in a timely manner. As of 30 March, the province had dried 40 percent of grains with high moisture content by taking advantage of the dry spring season. Of the grains stored last year, 4 billion jin require drying this spring. Therefore, the province urges departments concerned to complete their drying work before 10 May, the start of the rainy season. [SK072207 Changchun Jilin Provincial Service in Mandarin 1100 GMT 6 Apr 82]

GRAIN PRODUCTION--Grain output in Jilin Province in 1981 was 18.44 billion jin, up 7.3 percent over 1980 and an increase of 150 million jin over the record figure of 1978. The average per mu yield was 350 jin, up 12 jin over 1978. Six localities, not including Changchun, increased output. The income of the rural basic accounting units increased 418 million yuan over the best figure in 1980, an increase of 12.6 percent. Net income for distribution was 2.44 billion yuan--an increase of 343 million yuan over 1980, of which 1.98 billion yuan went to commune members, an increase of 20.6 percent over 1980. The average per capita income was 144.1 yuan, up 26.6 yuan, an increase of 22.6 percent over the previous year. Six localities in the province increased income. Municipalities and counties with an average per capita income over 150 yuan increased from 6 in 1980 to 25. Communes with an average per capita income over 200 yuan increased from 27 in 1980 to 139. [SK132247 Changchun Jilin Provincial Service in Mandarin 2200 GMT 12 Apr 82]

SCIENTIFIC FARMING--Fuyu County has applied scientific methods to farming and has planted 495,000 mu of crops. County cadres at all levels, along with scientific workers, have conducted a survey on soil composition in 37 brigades, urging all production teams to apply chemical fertilizer to crops in light of different soil compositions. [SK200801 Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Apr 82]

CSO: 4007/382

BRIEFS

COLLIERY FORESTS--Collieries in Liaoning Province have built shelterbelts in mining areas for many years. Now these collieries have a forest acreage of 1.81 million mu and 2.7 million cubic meters of timber storage. From 1977 to 1981, 420,000 mu of shelterbelts were built and over 75 percent survived. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 4 Apr 82]

PROVINCIAL CROPS--Over the past 3 years, the Liaoning Provincial Academy of Agroscience has developed 12 new crossbred types of paddy rice, corn, sunflower and cucumber and produced 620,000 jin of seeds of these new breeds. (Yuyao) No 57, a crossbred variety of paddy rice which won a national prize, has been cultivated on 2.2 million mu in the past 3 years in Liaoning, Shandong, Shanxi, Henan, Hebei, Jiangsu, Beijing and Tianjin provinces and municipalities. Output has generally increased over 10 percent, contributing an additional 275 million jin of paddy rice. The province last year cultivated 490,000 mu, half of the province's sunflower acreage, of Liaokui No 1 sunflower breed. The result was good. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 12 Apr 82]

NATIVE, LIVESTOCK PRODUCTS--By the end of March, the value of native and livestock products purchased by supply and marketing cooperatives in Liaoning Province were respectively 16.5 percent and 13.2 percent higher than in the corresponding 1981 period. [SK171424 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 16 Apr 82]

AGRICULTURAL LOANS--Agricultural banks and credit cooperatives in Liaoning Province have granted loans to support spring farming. By the end of March, the province had granted agricultural loans totalling 626 million yuan, an increase of 10 percent over the corresponding 1981 period. [SK132248 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 12 Apr 82]

CSO: 4007/382

BRIEFS

VEGETABLE PRODUCTION--The regional people's government recently issued a circular urging efforts to strengthen vegetable production and marketing work to ensure vegetable supplies this year. The circular states: Suburban areas should focus their production on vegetables. Suburban areas in the west should assign 7 li of vegetable fields to each vegetable farmer. Suburban areas in the west should assign 8.1 li to 1 fen to each. The retail prices of vegetables should be frozen. Vegetable producing brigades will be compensated by local financial departments for deficits in vegetable production. Effective measures should be adopted to eliminate deficits caused by poor management. [SK080439 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 7 Apr 82]

EGG PROCUREMENT--As of early April, Nei Monggol had procured 2.09 million jin of eggs, up 96.5 percent over the corresponding 1981 period. Chickens raised by commune members totaled 13.49 million, an increase of 1.94 million. [SK190930 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 Apr 82]

CSO: 4007/382

PROBLEMS WITH APATHY AT GRASSROOTS LEVEL DISCUSSED

Beijing ZHONGGUO NONGMIN BAO in Chinese 7 Feb 82 p 1

[Article by Bi Bingjian [3968 4426 7003], Deputy Chairman, Ninxia-Hui Autonomous Region, Farming and Forestry Office: "Several Problems in Perfecting Systems of Responsibility"]

[Text] Throughout rural Ningxia, systems of responsibility have been established, most of them being systems of responsibility whereby work tasks are contracted to individual households. These are now entering the state of summation, perfection, and stabilization. A look at the situation in Ningxia shows several problems in perfecting systems of responsibility that merit discussion and study.

1. 1. How Can the Socialist Collective Road Be Adhered to?

Generally speaking, there are two roads for maintenance of the social collective economy. The first is public ownership of the means of production such as land, and the second is distribution on the basis of work. There is no doubt about this, but what else can be done?

I believe that the socialist collective economy also has to achieve a common prosperity. Following liberalization of policies, those with a head for economics, those with skills, and those with ability are able to become prosperous first. However, those who know nothing but farming the land, who lack special skills, and who are not good at economic diversification, and particularly those households with few working members, find it difficult to become prosperous. Those who lead have to encourage not only "outstanding households," but also to support hardship households. In newspaper propaganda, bank loans, scientific and technical guidance, and provisions for people livelihoods, attention has to be directed to this problem.

The socialist collective economy also has to be a planned economy. We acknowledge the role of the laws of value; however, it has to be made clear that in China's agriculture, it is planned economy that is paramount and market regulation that is supplementary. Rural communes and brigades have to have an overall conception and handle well the relationship between planned guidance and self-determination. They cannot simply consider what to grow on the basis of what brings the greatest profits, and fail to implement state plans. Departure from the guidance of state plans can produce blindness. Not only rural communes and brigades, but economic units concerned, as well, have to study methods to be used to practice planned guidance. Institution of a contract system is a fine method; however, contracts do not have to be made into assignment books; contracts should provide both rights and obligations for both parties.

2. How Should the Grassroots Handle Matters?

In rural villages, communes and brigades constitute the foundation. Implementation of CCP Central Committee policies depends on the grassroots. Many production team heads had no idea for a long time as to how the grassroots should manage affairs once Ningxia had established systems of responsibility for production. Some places formulated 10 regulations for their grassroots cadres, but real management cannot be done that easily. I believe that for production team heads the main rule must be to do things for the commune members. When you do good things for commune members, the commune members will be happy and will manage things well. Institution of systems of responsibility for production can produce a one-third surplus of rural workforces. Organization of this workforce for economic diversification for greater production and greater earnings constitutes the main job of the production team heads.

Today there is concern about maintenance of social order from top to bottom. In some places public order is not all it should be for reasons of two kinds. One is that the effects of 10 years of turmoil have not yet been thoroughly purged, and the other is that grassroots political power plays no role. In such a situation, it is not enough to rely solely on public security personnel for the maintenance of social order in rural areas. There has to be reliance on grassroots political power, a strengthening of ideological and political work, and arousal of the masses to vigilance. Today some grassroots cadres do not want to take responsibility, fearing that if they don't discharge their duties well, they will themselves violate the law. Such ideas have to be rooted out. In another realm, political and legal units should clearly formulate several regulations covering matters to be the concern of grassroots political power so that they can be abided by. All problems that can be solved at the grassroots level should be solved at the grassroots level.

In order to make the grassroots assume the economic functions and political functions they should assume, it is necessary to solve the problem of how grassroots cadres are regarded. One must say that an overwhelming majority of grassroots cadres are good or comparatively good, and that those with a bad work style are in the minority. When grassroots cadres' ideas momentarily lag behind events, some people say that cadres are "props that hold doors shut." Such a statement is not fair. Implementation of systems of responsibility is a process, and the perception of cadres is a process too. Cadres must be allowed to constantly summarize experiences during the process of practice and gradually improve their perceptions. They must be helped, believed in, and relied upon to handle grassroots matters well.

3. How Can Farm Produce Prices Be Controlled?

Price policies have a great effect on agriculture. When prices are set too low, the peasants do not make money and do not want to produce. When they are set too high, production is stimulated, but sales are hurt. Several kinds of products in Ningxia currently face this latter problem. Some economic units continue to use the old methods, raising prices inappropriately on these things, with the result that overproduction occurs but the goods cannot be sold. Then they limit purchases from producers. This is extremely bad for planned, proportional development of production. A policy of basic stability must be followed for farm produce prices. Getting of procurement prices to be paid for various agricultural products must be commensurate with their value. There has to be equitable price parity, consideration of market demand, mostly the demand in the national market, and doing what will both stimulate production and help sales.

9432
CSO: 4007/230

BRIEFS

HAIDONG PREFECTURE GRAIN AREAS--Following the institution of responsibility systems, communes in Haidong Prefecture, Qinghai, blindly increased the acreage of oil-bearing crops and vegetables. Haidong prefectural civil administration has corrected this trend in a timely manner. Now the prefecture's grain areas are maintained at 3.7 million mu, and its oil-bearing crop areas are maintained at 400,000 mu. The prefecture's grain and oil-bearing seed procurement targets now can be fulfilled. [SK060645 Xining Qinghai Provincial Service in Mandarin 1100 GMT 4 Mar 82]

CSO: 4007/382

BRIEFS

SUMMER FIELD MANAGEMENT--On 18 and 19 March, comrades of the Shaanxi Provincial Agricultural Committee, the provincial Agricultural Bureau and the provincial Agricultural Scientific Research Center and some agricultural scientists inspected the growth of wheat in the fields in Yangling and (Zhaijia) communes in Wugong County and held a forum on specific measures for current summer field management. The experts and professors attending the forum held that in the light of the situation of the growth and the development of wheat in the Guangzhong area, the province should do well in irrigating wheat fields, applying manure, weeding and tending rape and cotton. [HK301349 Xian Shaanxi Provincial Service in Mandarin 2300 GMT 23 Mar 82]

CSO: 4007/382

COMMENTARY ON WHEATFIELD MANAGEMENT

SK170738 Jinan Shandong Provincial Service in Mandarin 2300 GMT 16 Apr 82

[Station commentary: "Do a Good Job in Strengthening Middle and Late Stage Wheatfield Management"]

[Excerpts] The ear and straw of wheat now are coming out. It is an important period for reaping a good wheat harvest. Leaders at all levels and the broad masses of commune members should adopt effective measures to conduct middle and late stage wheatfield management to ensure a good harvest. Since the beginning of wheat sowing this year, our province has suffered from sustained droughts that have affected the growing of wheat seedlings. However, thanks to good field management in the early spring, wheat growing has taken a favorable turn. So long as we continue to strengthen wheatfield management in the middle and late stages, we can have good harvests.

Some units are not confident of reaping a good wheat harvest this year. Some even think that this year our province will certainly suffer from a reduction in wheat output and therefore slacken their efforts to manage wheatfields. This idea is wrong and should be overcome. There remain 2 months until the wheat is harvested. This is a critical time. It is also a time in which natural disasters occur. The success or failure of field management will decisively affect wheat harvests. Therefore, we must correct our ideas, enhance our spirit, foster confidence and adopt effective measures to strengthen the middle and late stage wheatfield management. We should have good field management to ensure a good harvest.

Emphasis should be on the management of high-yield wheatfields. Wheat seedlings on the province's 30 million mu of high-yield plots are growing well. Therefore, our province has great potential to increase wheat output. We must try all possible ways to ensure proper irrigation and topdressing to harvest more wheat. Meanwhile, equal attention should be paid to strengthening the management of common wheatfields to fulfill and overfulfill this year's wheat production plan.

CSO: 4007/382

BRIEFS

PROVINCIAL IRRIGATION--Taking advantage of the Huanghe River diversion project, Liaocheng Prefecture has irrigated 2.16 million mu out of its 2.5 million wheat fields and 3.36 million mu of its 4 million mu of cotton fields. [SK171408 Jinan Shandong Provincial Service in Mandarin 2300 GMT 16 Apr 82]

PROVINCIAL AFFORESTATION--By 5 April, Shandong Province had prepared 0.22 million mu of lands for afforestation, built 0.49 million mu of forests and 2.44 million mu of shelterbelts around farmlands, interplanted tung trees and grain crops on 1.45 million mu of farmlands, planted 174 million trees around houses and lakes and on the sides of roads, planted 66.5 million tons of bushes and built 0.1 million mu of nurseries. [SK190840 Jinan Shandong Provincial Service in Mandarin 2300 GMT 18 Apr 82]

SEED STRAINS--In the past few years, 70 varieties of fine seed strains developed in Shandong Province have been commended by national departments concerned. In 1981, some 127 million mu--93 percent--of major crop fields were sown with fine seed strains. However, due to bad methods and irrational distribution, the management and utilization of these seed strains are poor and disorderly. To counter this, it is necessary to establish organizations for selecting and popularizing good quality seed strains to manage and utilize these seeds scientifically and systematically. [SK122217 Jinan Shandong Provincial Service in Mandarin 2300 GMT 11 Apr 82]

CSO: 4007/382

APPLICATIONS OF ISOTOPE, RADIOACTIVE TECHNOLOGY DISCUSSED

Shanghai WEN HUI RIBAO in Chinese 19 Jan 82 p 1

[Article: "Use of Atomic Energy to Benefit the People. Radioactive Breeding Methods Can Change Farm Crops Into "Trees That Shower Money." Use of Nuclear Technology Provides Appreciable Economic Benefits to Industrial Production"]

[Text] News from units concerned reports that during the past few years China's atomic energy science and technology has actively served the national economy to win appreciable benefits for it.

Agricultural science has widely applied isotope and radiation technology. Already 150 new varieties have been bred through use of radioactive breeding methods including grain, cotton, oil-bearing crops, fruits, and vegetables, which have been extended over an area of 100 million mu annually. From grain alone annual increase in output has been 5 billion jin. Increased accumulated earnings over a period of several years from radioactively bred "Lumian No 1" [cotton] have been 1.9 billion yuan, and the Shandong peasants called it "a tree that showers money." "Yuanfengzao" paddy rice has been extended to cultivation over a cumulative more than 70 million mu for an increase in output totaling 4 billion jin. New methods of applying fertilizer have been successfully developed through isotope tracer technology, increasing the chemical fertilizer utilization rate by 20 percent. Some valuable achievements have been won in radioactive sterilization of insects, research on chemical fertilizer synergists, radiation of food for storage, and safe use of pesticides. Industrial applications of isotope technology and radiation technology are becoming increasingly great, notably in the measurement of thicknesses, densities, and position of materials [2436 0143], in non-destructive flaw detection, in leak detection, in neutron activation analysis, in radiochemistry, prospecting for geological resources, static electricity elimination, and fire alarms. Rolling mill use of isotopes to measure thicknesses has brought about control over thicknesses of steel plates, thereby making manifold increases in the rate of steel plates meeting specifications. By using an isotope thickness measuring device, the Baoding Paper Mill produced 220,000 yuan earnings per machine per year. The Haerbin Petroleum Refinery's use of an isotope materials position instrument [2436 0143 6060] permitted manifold increases in the petroleum recovery rate. Use by a Taiyuan rolling mill of nuclear technology produced remarkable economic results.

Promotion of radiation processing technology in the organic chemical industries of Shanghai and other places has developed a group of new products with very broad uses.

During the past several years, application of nuclear technology to medicine has developed very quickly. Nuclear medicine has spread to every province, municipality, and autonomous region except Tibet. More than 900 hospitals and research units are using it, and there is a specialized nuclear technology corps totaling 4,000. Various kinds of radioactive medicines and instruments have developed very rapidly, and great strides have been made in their use for diagnosis of cancers, cardiovascular disease, and disorders of the thyroid gland. By way of promoting further use of isotopes in the national economy, the State Science Commission, the National Defense Science Commission, the China Science Society, and the two ministries of machine building have decided to convene a "National Conference on Isotopes" within a short period of time.

9432
CSO: 4007/251

BRIEFS

CIRCULAR ON PIG-RAISING--The regional people's government issued a circular on 9 April on vigorously promoting pig-raising. The circular said: The region must take two steps to solve its problems in pork production and supply. In the first step, we must strive to become basically self-sufficient in pork by 1985. In the second step, we must achieve complete self-sufficiency. The circular demanded that the region get a good grasp of pig-raising and assign procurement quotas. It is necessary to implement the policies and actively encourage the peasants to raise pigs while consolidating and developing collective pig-raising. [Urumqi Xinjiang Regional Service in Mandarin 1650 GMT 11 Apr 82]

CSO: 4007/382

BRIEFS

COUNTIES GROW COTTON--As of 14 April, counties under Hangzhou Municipality had sown 46.7 percent of the 131,000 mu of cotton crops planned for this year. [OW200727 Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 18 Apr 82]

CSO: 4007/371

AUTHOR: None

ORG: Institute of Genetics, Shijiazhuang Agricultural Modernization Institute, and Luancheng Method of Eliminating Intermediate Cultivation For Cotton Extension Group Chinese Academy of Sciences

TITLE: "Survey of Condition of Extension of the Method of Eliminating Intermediate Cultivation for Cotton"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 2, 1982 p 19

ABSTRACT: In the past 3 years, the Luancheng County Agricultural Modernization Comprehensive Scientific Experiment Foundation has been extending the method of eliminating intermediate cultivation for cotton crops, which is a fruit of research, jointly by the Institute of Genetics and the Shijiazhuang Agricultural Modernization Institute of Chinese Academy of Sciences. According to the 14-commune statistical survey of 1980, the 24,000 mu of cotton for which the method was adopted, averaged a yield increase of 10-15 percent. The method made it possible to seed about 10 days earlier, caused the soil temperature to be 2°C higher, reduced the density of cotton plants, saved labor, used less water before blooming, needed very little seedling fertilizer, brought about early development of seedlings, and lessened pest damage. Not a few cotton fields yielded close to 200 jin of ginned cotton/mu. The paper does not include a description of the method, however.

AUTHOR: None

ORG: Yangzhou Prefecture Rice Disease Resistance Breeding Cooperative Group, Jiangsu Province

TITLE: "New Line of White Withering Resistant Intermediate Xian Rice, 910, 929"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 2, 1982 p 20

ABSTRACT: White withering disease has become a great obstacle for the development of rice production in Yangzhou. In the 12 years of 1970-81, there were 2 years of severe epidemics and 4 years of lesser epidemics resulting in losses varying from 70-110 million jin of rice a year. A research project has been carried out by the Prefecture Institute of Agricultural Sciences to breed from the BG-90-2 system, 2 resistant strains, 910 and 929. Experimental cultivation was conducted in Yizheng County etc. to confirm their white withering resistance. They were found to mature about 15 days earlier than BG-90-2, with yield varying from 900 to 1,100 jin/mu, obviously higher than that of local breeds. The disease resistant manifestations, the high yield properties, and the adaptability of the new strains of 910 and 929 are described. At present, the supply of seeds of 910 and 929 is very limited, limiting to 1-2 jin per order at a price of 0.15 yuan/jin with an additional 1 yuan to cover postage.

6248
CSO: 4011/75

AUTHOR: ZHANG Guoqiang [1728 0948 1730]
WU Enan [0702 6948 0589]

ORG: Both of Institute of Crops, Shanghai Academy of Agricultural Sciences

TITLE: "Growth and Development Characteristics of Intermediate Maturing Early Xian Rice 77-6"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 5 Feb 82 pp 7-8

ABSTRACT: The early rice strain 77-6 was bred out by the institute from a single spike, an offspring of Kefuzao x Zhulianai, with nitrogen molecule laser treatment. The first generation (1976) matured 3 days earlier, the spike became longer, and the plant appeared in a tighter shape. It was propagated in the winters of 76-78 in South China. Experimental production of 79-80 indicated an average yield of 915.04 jin/mu, following crops of green manure or vegetables, 846.4 jin/mu, following barley or naked barley, and 804.9 jin/mu following rape or rice seedbeds, amounting to increases of 6.31 to 10.93 percent over the control breed, Yuanfengzao. The major characteristics of 77-6. including a well-developed root system of seedlings, early tillering, numerous effective spikes, standing leaves to permit high utilization of photo-energy, good ventilation, only mildly susceptible to sheath and culm disease, high rate grain yield, good rice quality, and high protein and amino acid contents are discussed. With the same yield as Yuanfengzao but maturing 3 days earlier, it provides a favorable condition for early transplanting of the late season rice and thus the condition for a triple crop system.
6248
CSO: 4011/74

END

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CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

'RENMIN RIBAO' DISCUSSES FARM PRODUCTION IMPROVEMENT

HK260759 Beijing RENMIN RIBAO in Chinese 20 Apr 82 p 2

[Commentator's article: "Strive To Improve the Conditions for Farm Production"]

[Text] Having become rich economically, the peasants in Huaiyuan County of Anhui Province and Xinyi County of Jiangsu Province have begun to actively invest labor and capital in improving the conditions for production, so as to push ahead with the continuous development of agriculture. This is really a foresighted and sagacious step which should be popularized.

In the last few years, as the responsibility system of linking remuneration to production has been implemented in rural areas, production has developed rapidly and the savings of quite a few peasants have increased. How should one rationally employ the grain and money that has been saved. This problem calls for careful study. The vast number of peasants have learned from their own experience that because of the party's correct policy and the people's great initiative, agricultural production has been increased in the last few years. They know that this is the most important factor for developing production. They also know that promoting production cannot go without certain material and technical conditions, such as the improvement of material conditions, the enhancement of scientific and technological levels of water conservancy, manure production, fine variety breeding, plant protection, farm machinery production, storage and transportation, and so on. If these conditions are lacking, agricultural production will not be able to move forward steadily and continue to develop. In some places which frequently suffer from natural disasters, the farmland's ability to resist disaster is weak, and continuous improvement of the conditions for production is particularly important for the steady development of agricultural production.

In order to improve the conditions for agricultural production, the state will provide some material and capital assistance. However, in the period of economic readjustment, there will not be a large amount of state aid. Thus, funds and materials must be allocated to key projects and must not be used in a scattered fashion. Therefore, in order to improve the conditions for agricultural production, production brigades and teams in various places still have to depend on themselves in raising funds. At present, this calls for the correct handling of the relationships between accumulation and consumption and between the enhancement of living standards and the development of production and construction. In the past, peasants in some places were living in poverty for a long time, and now they are becoming rich. So, they renovate their houses, buy more daily necessities, try to eat better and dress better, and improve their lives materially and culturally. This is quite reasonable. However, when improving livelihood, we must have our eyes on the future, and keep long-term construction in mind, so as to ensure that agriculture can develop steadily. "Feed the people first and then promote construction." If we do not allocate some funds to developing production and construction but use up all the funds on food and consumption, there will be stagnancy in production, and the cause of continuously developing agriculture will be hopeless. Only by persistently giving play to the fine tradition of being self-reliant and working hard, accumulating more funds, and continuously expanding reproduction, can we create more social wealth and thus further improve the masses' livelihood. Our peasants understand this. What the peasants in Xinyi County said is quite right: "Although our income has been increased, we must not be concerned solely with eating and drinking. On the contrary, we have to save money for the future!" The peasants of all brigades and teams in rural areas must have such an understanding too, and they should follow the example of the peasants in these two countries.

The experiences of Huaiyuan and Xinyi counties show that the latent power in agricultural development is great. There are plenty of things to be promoted in rural areas. The leading cadres at different levels must try to skillfully guide and organize the masses, assist communes and brigades in working out long-term plans, and help peasants properly run all aspects of their business activity. On the other hand, they should provide peasants with the necessary assistance so as to mobilize the latter's initiative in investing labor and capital in developing production. The peasants' interests must be protected, the decisionmaking power of production teams must be respected, arbitrary and impracticable directions must be avoided, and the practices of egalitarianism and indiscriminate transfer of resources must be eliminated.

As various forms of the production responsibility system are being gradually amplified and the conditions for production are continuously improved, we can be sure that agricultural production will further develop this year.

CSO: 4007/396

EFFECTIVENESS OF NEW SYSTEM FOR FORESTRY APPARENT

Beijing ZHONGGUO NONGMIN BAO in Chinese 31 Jan 82 p 1

[Article by Lin Guan [2651 6306]: "Localities Throughout the Nation Have Realized Results in Implementing the Three Establishments System"]

[Text] Up to the end of last year, the work of "three establishments" --establishing and stabilizing rights of mountain forests, zoning private mountains, and establishing the production responsibility system in forestry--has been widely launched in 27 provinces, cities, and autonomous regions (Shanghai and Xizang are preparing to launch the work). The number of counties (cities) that have launched "three establishments" work in forestry has reached 1,695, which is 75 percent of the total number of counties (cities) throughout the nation. Among them, 1,053 counties (cities) have implemented it on an overall basis.

Hunan, Guangxi, Jingxi, Liaoning, and Hebei, which have progressed relatively fast in the work of "three establishments" in forestry, have completed over 30 percent of the tasks. Sichuan Province has completed nearly 50 percent. According to incomplete statistics from Hebei, Liaoning, Fujian, Jiangxi, Henan, Hubei, Hunan, Guangxi, Sichuan, Guizhou, Shaanxi, and Gansu, 47.92 million mu of private mountain land have already been zoned to commune members. Many localities have established or made sound various forms of the production responsibility system in forestry. More than 40 percent of the number of units in the provinces or city of Gansu, Beijing, Sichuan, Hebei, and Jiangxi have established the responsibility system. According to preliminary statistics from Hunan, Guangdong, Jiangxi, Guangxi, and Guizhou, nearly 120,000 various disputes over mountain forest rights have been handled through the work of the "three establishments."

The "three establishments" in forestry have greatly mobilized the enthusiasm of the people and masses in forestration, in cultivating forests, and in protecting forests. At present, the number of trees planted on land in Sichuan Province has reached more than 1.2 billion. Over 70 percent of these trees were planted by commune member individuals. The number of forestfires in the mountain forests of Guizhou Province has been greatly reduced. For example, the area of mountains burned in the Libo County has decreased by about 90 percent from the past.

9296
CSO: 4007/222

'RENMIN RIBAO' DISCUSSES USING FARMLAND TO BUILD HOUSES

HK261232 Beijing RENMIN RIBAO in Chinese 19 Apr 82 p 1

[Commentator's article: "Properly Manage the Use of Land in Villages and Townships To Build Houses"]

[Text] Recently, the State Council promulgated the "regulations on management of the use land in the villages and townships to build houses," which reaffirms the party and government's basic policies on land in rural areas and lays down explicit and rational provisions on several questions about the use of land in rural villages and townships to build houses. In a circular, the State Council has demanded that all localities should implement these "regulations" in light of their specific conditions as quickly as possible and should resolutely curb the tendency of abusing farmland in building houses. This is an important item of work in rural areas at present that must not be neglected.

In the past few years, marked changes have taken place in the rural economy. Peasants and collectives of brigades and communes have built many new houses in order to improve living conditions. This is a good thing. However, in many places, this kind of activity, which directly affects the interests of millions of peasants, has not been put on the agenda of leadership work. In addition, there is no unified planning or sound management system in this respect and some cadres are involved in unhealthy trends. Consequently, the phenomenon of abusing farmland in building houses is quite serious. If we do not resolutely and earnestly solve this problem at once, it will do great harm to the four modernizations and to the future generations.

It has been the consistent policy of the party and the government to forbid seizing at will collective farmland of the socialist public ownership. Both the "revised draft resolution and work regulations of the people's communes" adopted at the 10th Plenary Session of the 8th CCP Central Committee in 1962 and the two documents on agriculture formulated at the 3d Plenary Session of the 11th CCP Committee stipulate the following: It is forbidden to rent or sell the land of the production teams, including plots and hills for commune members' private use and plots for building houses and so on; without the approval of government organs at county level, no unit or individual should seize and use land owned by the production teams; areas for commune members to build new houses should be planned by production teams in a unified way and if possible, farmland should not be used. In April last year, in view of the serious situation of destroying farmland to build houses in some localities, the State Council again issued "an emergency circular on putting a stop to using farmland in rural areas to build houses." Why is it that some localities have not yet paid due attention to this problem even after the CCP Central Committee and the State Council have issued repeated injunctions in this respect? One of the important reasons is that leading organs and responsible comrades concerned do not understand very clearly the importance of good management of land. Therefore, they do not do their best to curb this very serious phenomenon of seizing land for building houses at random. Some even close their eyes to this phenomenon. There are also some cadres who take the lead in seizing farmland to building houses, thus creating a very bad impression.

Of course, we should admit that there was no sound and unified system to manage the use of land in villages and townships to build houses. Some difficulties in practical work were also caused by the standard sizes of land for building houses and procedures for obtaining approval, which were not clearly defined. At present, the State Council has promulgated the "regulations" and these difficulties have been removed. Various localities should seize the occasion to seriously work out plans for implementation in accordance with the requirements of the State Council's circular. They should formulate provisions specifying restrictions on using land in villages and townships to build houses, standard sizes for building houses, limitations on authority in giving approval and procedures for giving approval, so that the people will have something to go by and the work will be managed by someone. Moreover, we should make brief plans first and then detailed plans for villages and townships as quickly as possible in order to ensure early implementation of the "regulations" at the basic levels.

The question of using land in villages and townships to build houses is closely related to the interests of the peasants. We should pay attention to carrying out political and ideological work among basic-level cadres and commune members and explain and publicize the spirit of the "regulations" to the masses so that the masses will conscientiously observe them and supervise each other. In this way, the implementation of the "regulations" will be ensured. We should patiently and meticulously persuade and educate the masses and encourage them to take the interests of the whole into account and correctly handle the relationships between the state, collectives and individuals. We should defend the solemnity of the state law and strictly act in accordance with the law. The "regulations" clearly stipulate that anyone who illegally seizes land to build houses shall be punished by returning the land within a specific time, pay a fine or pay indemnities. If the offenders are commune or brigade cadres, or state functionaries, administrative punishment should also be dealt out to them. The State Council's "circular" stresses: Incidences of seizing farmland to build houses that occurred before the promulgation of the "regulations" should also be sternly punished in accordance with the "regulations." We should also investigate and affix administrative, economic and even criminal responsibilities to some cadres who take advantage of their positions and power and engage in malpractices for selfish ends. We should never yield to or tolerate such doings. So long as we resolutely act in accordance with the "regulations," we can certainly change certain disorderly situations in using rural land and gradually systematize the management of land.

CSO: 4007/396

BRIEFS

INTERNATIONAL WORKSHOP ON FERTILIZER--Fuzhou, 26 Apr (XINHUA)--The international workshop and training course on nitrogenous fertilizer opened today in Fuzhou, capital of Fujian Province. The 4-day workshop and 19-day course are sponsored jointly by the Fujian Provincial Academy of Agricultural Sciences, the International Fertilizer Development Center (IFDC) and the International Rice Research Institute (IRRI). At the workshop, experts and scholars from 15 countries will exchange their experience in raising the utilization of chemical fertilizer. Chinese experts will brief their foreign colleagues on the techniques of rational use of organic and chemical fertilizer. Chinese and foreign experts will read papers, have discussions and visit Fuzhou and other places. Addressing the opening ceremony were Zhang Gexin, vice-governor of Fujian Province, He Kang, vice-minister of the State Agricultural Commission, Dr P.J. Stangel, deputy managing director of IFDC, and Dr D.J. Greenland, deputy director general of the IRRI. [Text] [OW261516 Beijing XINHUA in English 1506 GMT 26 Apr 82]

CSO: 4020/123

BRIEFS

PIG, EGG PURCHASE--Hefei, 21 Apr (XINHUA)--By the end of March, 1,169 million head of pigs and 25.51 million jin of eggs were purchased in Anhui Province, an increase of 172,600 pigs and 5.68 million jin of eggs compared with the same period of 1981. [OW220543 Beijing XINHUA Domestic Service in Chinese 0038 GMT 21 Apr 82 OW]

CSO: 4007/396

MEASURES FOR CONSERVING WATER CANNOT BE SLACKENED

Beijing BEIJING RIBAO in Chinese 29 Jan 82 p 1

[Article by Wang Yonghua [3679 3057 5478]: "The Amount of Water Stored in the City's Two Reservoirs Has Lessened and the Underground Water Level Continues To Drop; Conserving Water To Fight Drought Is Still an Urgent Task and Cannot Be Slackened; Strictly Carry Out the City's Directive on the Use of Water so That the Only Sources of Water Can Be Enough to Supply Water Until Just Before Rainy Season Arrives"]

[Text] This reporter recently learned from the Municipal Water Conservancy Bureau that at present, the drought and the shortage of water in the city have not changed for the better. Conserving the use of water and actively resisting drought are still important tasks for the city's residents and businesses, and they cannot be slackened. According to statistics, up to the first 10 days of January the reserve of usable water in the Guanting and Miyun reservoirs amounted to 314 million cubic meters, which is only 40 percent of the reserve during the same period last year. Since the beginning of winter, the underground water level has not yet returned but has continued to drop. The underground water level in the mountain regions has dropped 4 to 5 meters compared to the same period last year. The underground water level in hilly regions and semimountainous regions has dropped 3 to 4 meters. Of the 37,000 mechanized wells for farming in the Beijing suburbs, only 12,900 wells can draw water normally. There are 14,500 wells that can produce only half the normal output. There are 9,700 wells that either can only be drawn intermittently or have dried up.

The serious drought has already continued for more than 2 years since the summer of 1979. In 1981 there was less rainfall in the city. Floods did not occur during the flooding period, and the amount of water in the two large reservoirs at one point had dropped to below the dead reserve level To guarantee the needs of city life and industrial production, the two large reservoirs have had to stop supplying water to the agricultural sector in the Beijing suburbs ever since the first 10 days of June of last year (not including the suburban vegetable fields and the dislocated residents in the area of the Miyun Reservoir). In August, the State Council held an emergency meeting on the use of water in the Beijing and Tianjin areas. It was decided that the Miyun Reservoir would not supply any more water to

Tianjin. Later, the city committee and the city government held two citywide mass meetings on conserving water. For several months now, all businesses throughout the city have been conscientiously implementing the spirit of the directives of the State Council and the city. A lot of work has been done in adhering to the directives to lessen the use of water and to exert efforts to conserve the use of water. Visible results have been attained. But the leadership of some units and the masses lack an understanding of the urgency and the importance of conserving the use of water, and their measures have not been sufficient. The city's water conservancy department has called upon all fronts in the city to follow the demands and plans of the city committee and the city government. The directives on the use of water issued by the city have been strictly and scientifically calculated. As long as they are fully implemented, the only water sources in the whole city at present will barely be able to supply enough water until the end of this June, just before the arrival of the rainy season. Recently, the city had two light snowfalls; the amount of precipitation in most areas of the city was only 2 or 3 millimeters. The western mountain region basically have not had any snow. Concerned departments believe the broad masses must not entertain any wishful thinking, but must start out from the belief that the drought will continue, so that they will prepare for a long period of conserving water and fighting drought. The farm villages in suburban Beijing must continue to utilize the presently available mechanized wells and the basic amount of flow in the river channels to manage winter irrigation well, to repair leaky canals and waterways, and to level the land. Mechanized wells must be repaired, and technical training of operators and electricians must be carried out well in order to improve the effectiveness of irrigation. In irrigation, the production responsibility system must be implemented. Rational quotas must be established. Wards and counties concerned must face reality and be determined to reduce the area planted in paddy rice this year. Businesses and residents in the city must also act and make additional contributions to water conservation.

9296
CSO: 4007/222

FOOD GRAIN PRODUCTION MUST NOT BE SLIGHTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 31 Jan 82 p 1

[Commentary: "Never Slacken Food Grain Production"]

[Text] "Never slacken food grain production; actively develop diversification" is a party policy which must be implemented with determination and implemented on an overall basis. According to the reactions of many readers, some localities lack the overall picture when they implement this policy. They have overly reduced the slowing area for food grains and have used additional manpower and materials to develop economic crops and diversification. As a result, food grain production is affected. This is wrong.

Our nation has a population of 1 billion. Feeding them is still a major task. At present, our nation's amount of food grains per capita is still not large. There is still a shortage in the supply of food grains. This situation should attract the serious attention of the localities and should not be neglected.

Economic crops should be developed in a big way. But we should rely mainly on [measures] that have not been utilized, such as increasing the unit yield, improving quality, and utilizing unclaimed mountains and unclaimed beachland. We must not rely on continued reduction of the area sowed in food grains. Of course, local and small adjustments are still allowed; especially, our nation's northern region still must continue to expand the areas of cotton and sugar crops. But generally speaking, the ratio of economic crops and the sowing area of food grains should be stabilized at the present level so that production of food grains can develop steadily. We should see the mutual benefits of diversification and food grain production, but we should also see the mutual limitations. In our nation, if food grain production does not continue to develop, if we rely on reducing the area sowed in food grains to develop economic crops, the results will be that economic crops will not be able to develop very well.

Comrade Chen Yun [7115 0061] recently pointed out with emphasis that the agricultural economy is an important part of the national economy. In agricultural economy, economic planning should be the main effort and market regulation should be a supplementary effort. After the responsibility system of linking production and contracting work has been implemented, the emphasis should still be on doing things according to national plans. Cadres and masses of commune members in our broad number of farm villages should consider the overall situation, recognize the whole, and think of the benefits to the state. If we consider only the benefits that are before our eyes, if we select only the methods that benefit ourselves, if we plant only that which brings us large benefits, do only that which earns us a lot of money, and develop blindly and freely, the result will be the destruction of the national plan. This will not benefit the construction of socialism, and it does not coincide with the long-range benefits of the farmers. Only policies that benefit both the farmers and the nation are correct and good. Only by arranging production in this way can agriculture realize overall development.

The best part of the year is the spring. Now is the time to establish and implement this year's production plans. We must implement the policies of the Central Committee on an overall basis. We should actively develop diversification and the family sidelines of commune members, but we must never slacken food grain production.

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CSO: 4007/222

BRIEFS

ANIMAL FEED CONFERENCE--Beijing, 26 Apr (XINHUA)--The Ministry of Commerce held a national animal feed work conference in Beijing from 16 to 26 April. The conference called for efforts to produce a greater variety of nutritious mixed feed to facilitate the development of animal husbandry and fishery. It has been demonstrated that some 60 to 100 jin of grain can be saved per pig if it is fed scientifically prepared mixed feed when the animal grows to about 170-180 jin. Besides, the feeding period can be reduced by 2-3 months and the cost can be lowered by some 20 percent. The conference called for increasing the national annual feed output from 1.5 million dun in 1981 to 6-7 million dun by 1985 when mixed feed should account for more than 30 percent of the total amount of feed produced. [Beijing XINHUA Domestic Service in Chinese 1443 GMT 26 Apr 82 OW]

CSO: 4007/396

PLANTING NEW VARIETY OF PADDY RICE GAINS RESULTS

Beijing GUANGMING RIBAO in Chinese 7 Feb 82 p 1

[Article by Bai Jingzhao [4101 0079 0340] and Li Hanrong [2621 3352 2837]: "By Reforming the Sugarcane Planting System and by Planting a New Variety of Paddy Rice, Fujian Agricultural Academy Actively Popularizes Scientific Research Results and Realizes Happy Achievements"]

[Text] Last year, the Fujian Agricultural Academy popularized a new planting system and a new variety of paddy rice--"233"--over large areas to improve the utilization of the energy from light on sugarcane plantations. The efforts have produced widespread increased yields on 25,000 mu of sugarcane and 300,000 mu of paddy rice.

Xianyou County in Fugian Province is an important sugarcane-producing region of our nation. In the past, the forecrop of sugarcane was always completely wheat. About 20 days prior to harvesting the wheat, sugarcane was companion-planted between the rows of wheat. This method of cultivation caused sugarcane plants to grow slowly and the germination rate to be low, because the sugarcane was planted too late and because the sugarcane plants were in the shadow of the wheat plants. In recent years, this academy's sugarcane expert, Prof Zhou Keyong [0719 0668 8673], led the Sugarcane General Research Institute in conducting a study of [how to] reform the planting system in sugarcane regions. After the experiment, visible results were realized. This new planting and cultivation system will change the forecrop of sugarcane from wheat to part wheat and part vegetables, interplanted equal distances apart. The low utilization rate has been improved by regulating and improving the permeation of light in the various periods between the sugarcane and the interplanted and companion-planted crops, with the result that the sugarcane's germination rate has been improved and growth has been hastened. They quickly joined Xianyou County to develop popularization together. The year before last, they popularized [the method on] 10,000 mu. Last year, that academy carried out three reform measures in Xianyou County and popularized the method over 25,000 mu.

The Department of Agriculture at the academy has selectively bred via hybridization and cultivation a new early xian variety, "233." Last year it was widely popularized throughout the province. They signed a contract with the provincial science committee and guaranteed a 10-percent increase in yield over an area of 100,000 mu. The results of planting at each locality produced an average increase of 10 percent over the current dominant variety; many localities produced a yield of 1,000 jin per mu in one cropping season. Dongqiao commune in Putian planted the early crop over 380 mu. The average yield showed an increase of 23 percent over the dominant variety, and a per mu yield surpassing 1,000 jin was produced on 300 mu.

9296
CSO: 4007/216

FIRST SECRETARY MEETS FERTILIZER EXPERTS

OW302154 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 29 Apr 82

[Text] The international academic forum on nitrogenous fertilizers concluded in Fuzhou on the afternoon of 29 April. The closing ceremony was presided over by Dr Greenland, deputy director of the International Rice Research Institute. Dr Stangel, deputy director of the International Fertilizers Development Center, gave a brief report at the forum. (Gao Huilin), director of the soil fertilizer institute under the Chinese Academy of Agricultural Sciences; (Chen Huakui), chairman of the China Soil Fertilizer Society and president of the Central China College of Agricultural Sciences; and Mr (Kin), director of the Burmese Institute of Agricultural Sciences, spoke at the forum.

Twenty-six Chinese and foreign experts presented academic reports and held panel discussions during the 4-day session. Lively discussions were held by the experts and scholars on opening up new sources of and effectively using nitrogenous fertilizers. It was maintained that the forum promoted scientific and technological cooperation and friendship among the various countries.

During the forum, the representatives visited the Fujian College of Agricultural Sciences. They had a high opinion of the college's achievements and expressed keen interest in the college's research of chemical fertilizers, topdressing machinery and cycling of organic matter.

The Fujian College of Agricultural Sciences exchanged souvenirs with the International Fertilizers Development Center and the International Rice Research Institute at the closing ceremony.

Xiang Nan, first secretary of the Fujian Provincial CCP Committee, called on some of the experts, scholars and officials of some international research organizations on 29 April. Beginning 30 April, the experts and representatives will tour Wuyi Mountain in Jianyang County. Some representatives will stay to attend training classes beginning 4 May.

CSO: 4007/396

BRIEFS

FERTILIZING METHOD--An advanced experience of applying chemical fertilizers deep into soil is being popularized in Fujian Province. The new application method can raise the utilization rate of chemical fertilizers by 20 to 30 percent and increase per mu grain output by 86 jin. In 1981 about 500,000 mu of land in Fujian was fertilized by using the deep application method. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 27 Apr 82 OW]

MARINE CULTIVATION--In 1980 and 1981, Fujian Province expanded the area of marine cultivation by 46,000 mu and increased the output of marine products by 109,000 dan. In the province, there are 2 million mu of coastal shallow water area suitable for marine cultivation. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 29 Apr 82 OW]

CSO: 4007/396

BRIEFS

FLOOD PREVENTION CONFERENCE--According to weather forecasts, rainfall in the upper reaches of the Huang He in Gansu will be comparatively abundant this year. The Gansu provincial forum on flood prevention and reservoir safety, which concluded on 27 April called for continued efforts to strengthen dike and reservoir management and prepare against floods. [SK292217 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 28 Apr 82 SK]

SHEEP-RAISING ACHIEVEMENTS--Since the 3d Plenary Session of the 11th CCP Central Committee, Yongchang County, Gansu Province, has scored remarkable achievements in raising sheep. By the end of March, the county had over 283,600 head of sheep, surpassing the figure of the corresponding 1978 period by 34 percent. Each agricultural household has 608 head of sheep. [SK030507 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 1 May 82 SK]

CSO: 4007/396

BRIEFS

CANE SUGAR PRODUCTION--The 1981-1982 sugar refining season in Guangdong Province has basically concluded. The province's output of cane sugar has reached 1.285 million tons, 26.8 percent more than in the preceding sugar refining season. The province reaped a big bumper sugarcane harvest last year. The amount of sugarcane which all communes and brigades in the sugarcane production areas and state-run farms supplied to the sugar refineries reached 11.65 million tons, 38 percent more than in the preceding sugar refining season. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 20 Apr 82 HK]

RICE RESEARCH CENTER--After approximately 3 years' design and construction, the Guangdong Provincial Paddy Rice Research Center which the Ministry of Agriculture has invested in and built has been recently and basically completed. The Ministry of Agriculture has decided that the inauguration ceremony for this research center will be held at the end of May. This paddy rice research center is situated in the Guangdong Provincial Agricultural Science Institute in Shipai, Guangzhou. After the national conference on science, to speed up the modernization of agricultural science and technology in our country, the Ministry of Agriculture has invested in seven research centers, of which the provincial paddy rice research center is one. The total in this research center amount of investment is 3.67 million yuan and its total construction area is some 97 million square meters. Some of its main apparatus and equipment have been imported from abroad. This research institute will be managed and used by the paddy rice department of the Guangdong Provincial Agricultural Science Institute. [HK161257 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 13 Apr 82 HK]

HAINAN SEAWATER BREEDING--After friendly consultation, the Hainan Li-Miao Autonomous Prefectural International Trust and Investment Company recently signed a contract with the (Toko) Company, Japan, on developing the seawater breeding trade in the form of cooperative production. They also established the Hainan Autonomous Prefectural Seawater Breeding Development Company. According to the provisions of the contract, the (Toko) Company will invest 100 million yen in the Hainan Autonomous Prefectural Seawater Breeding Development Company and be responsible for technical guidance while Hainan Autonomous Prefecture will provide the place for seawater breeding. The period of cooperation will be 15 years. Hainan Autonomous Prefecture will get 25 percent and the (Toko) Company will get 75 percent of the net profits. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 12 Apr 82 HK]

CSO: 4007/396

BRIEFS

TOBACCO PRODUCTION MEETING--From 20 to 23 April, the Guizhou Provincial People's Government held a meeting in Qianxi County on flue-cured tobacco production. The meeting made specific arrangements for flue-cured tobacco production in this province this year. Attending were 187 leaders from all prefectures, autonomous prefectures, municipalities and counties, responsible persons of relevant departments and scientific and technological works. Shen Yunpu, vice governor, spoke on this year's flue-cured tobacco planned production. The meeting conveyed the spirit of the instruction of the central authorities on strictly arranging for flue-cured tobacco production in accordance with the state plan and examined the situation of carrying out the plan for cultivating flue-cured tobacco in the province this year. It was discovered that some prefectures had not arranged for flue-cured tobacco production in accordance with the state plan and had expanded areas for cultivating flue-cured tobacco. The meeting held that this province is now still not self-sufficient in grain and if we blindly expand areas used for cultivating flue-cured tobacco, it will surely reduce the areas that can be used for cultivating grain. In accordance with our state capacity for cigarette production, we are not allowed to expand areas for cultivating flue-cured tobacco in a blind and unrestricted way. The meeting demanded that poltical and ideological education be conducted for peasants engaged in growing tobacco. [HK031455 Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 25 Apr 82 HK]

CSO: 4007/396

BAODING PREFECTURE'S MEASURES FOR RURAL WORK

HK290725 Shijiazhuang HEBEI RIBAO in Chinese 21 Apr 82 p 1

[Report: "Baoding Prefectural CCP Committee Formulates Ten Measures for Strengthening Rural Grassroots Work"]

[Text] While conveying the documents of the national rural work conference, the Baoding Prefectural CCP Committee leaders have personally gone deep into reality to investigate and study how to strengthen rural grassroots work, and have accordingly formulated the "Baoding Prefectural CCP Committee's 10 measures for strengthening rural grassroots work." The text of this document follows:

Since the third plenary session, the grassroots rural organizations in Baoding Prefecture have done a lot of work in actively implementing the party's line, principles and policies, readjusting and restructuring the agricultural economy, setting up and perfecting the agricultural production responsibility systems and building spiritual civilization. Excellent and great changes have taken place in the rural situation. The grassroots cadres have worked hard, made great and arduous efforts, and scored outstanding successes. Such an excellent rural situation, rarely seen before, could not have been accomplished without their hard work. However, in the current new period of historical development, it has been revealed that our rural grassroots work is far from meeting the needs of the great developments and changes in the situation. Certain grassroots leadership groups are lax and weak and their political and ideological work is poor. Certain grassroots cadres lack sufficient understanding and grasp of the party's line, principles and policies, and are not bold enough in work. A very small number of cadres are listless, display bad work style, damage the collectives, pursue private interests, get entangled in factional interests and cause disunity, with the result that leadership groups are paralyzed or semi-paralyzed. These things show that there has to be a process of matching and understanding the new problems in the new situation. They also show that our commune, county and prefectural leading organs have not done enough study of grassroots work or made enough effort to get down to the grassroots and help solve the practical problems there. Unless we take effective action to rapidly change this situation, it will be impossible to implement well the party's correct principles and policies, the measures for building socialist agriculture will turn into empty talk, and the vital interests of the masses will be harmed and their socialist enthusiasm damaged. All this will cause a passive situation in work, which will affect the development of the excellent situation. Hence, the party committees at all levels, especially of the counties and communes, must be resolved to devote great effort to strengthening grassroots work, rectify the grassroots organizations, implement the spirit of the "minutes of the national rural work conference" circulated by the CCP Central Committee, fully mobilize the enthusiasm of the grassroots cadres, and enliven rural work. We must, therefore, resolutely adopt the following measures:

1. We must clearly understand that current rural work is guided by the "minutes of the national rural work conference" and put the stress on strengthening the leadership of the grassroots organizations, upholding the path of socialist collectivization, and perfecting the production responsibility systems. The county and commune party committees must carry out a universal investigation of the grassroots party branches and the brigade management committees to find out their situation, put forward specific ways of strengthening the grassroots organizations, rapidly rectify paralyzed and semi-paralyzed organizations, help weak and powerless organizations, and consolidate and raise the standards of the progressive organizations. In connection with clearing out the "people of three categories," we should enable every grassroots organization to become a core and a powerful fighting force uniting the masses to forge ahead, seriously carrying out the party's line, principles and policies and doing a good job in building socialist material and spiritual civilization. A new situation will thus emerge in grassroots work.

2. Every county must set up a special rural grassroots work team. The main tasks of the team are: 1) to rectify the grassroots leadership groups; 2) to perfect the production responsibility systems and take stock of financial affairs; 3) to help the grassroots to solve some longstanding, great and difficult problems. A deputy secretary of the county CCP Committee should be responsible for this team, which should be composed of 30 to 50 cadres, chosen from the county and communes, who have a definite grasp of policies, good work style, strong sense of responsibility, ability and drive. Functions, rules and regulations should be drawn up for them after a short training period. Under the direct leadership of the county CCP committee, the team is to assist the commune party committees and help to solve problems on backward brigades with many problems.

3. Strengthen the commune party committees and management committees. Every county should transfer from the county organs a number of outstanding young and strong cadres with good thinking and work style, drive, ability and specialized knowledge and send them, especially young ones, to work on the communes; some of them should fill the posts of Nos 1, 2 and 3 men on the communes. In view of the fact that the current main sources of cadres are graduates of universities and secondary technical schools and ex-army cadres,

we should stress that all county section and bureau chiefs who have not done grassroots work must be sent down to the communes to be steeled by holding grassroots posts. Leading commune cadres whose work is outstanding can join the leadership groups of the county party committees and government.

4. Actively popularize the experiences of county and commune cadres in Boye County in going to stay and work on the brigades and production teams while retaining their posts and salaries. We should vigorously support cadres who volunteer to go down to work in the grassroots. They can be sent down to stay at units of their choice and their tasks and the duration of their stay in the grassroots (it can be 1, 2 or 3 years) must be clearly defined. They should be examined at the completion of their term, and those who have done very well should be commended. Their success should also be made a promotion criterion.

5. Boldly select and promote outstanding young grassroots cadres. In view of the present low number of young party members in the rural party branches, it is particularly necessary to pay attention to strengthening the brigade management committees. We should boldly select and promote to these committees outstanding non-party member cadres who have come to the fore since the third plenary session and ensure that they genuinely undertake political and economic duties. After active cultivation and steeling, we should prepare to replenish the party committees with new blood by actively cultivating and steeling these people.

6. Strengthen rural ideological and political work. The grassroots party branches must put education for the peasants in ideology, politics and policies in the primary position. It is necessary to put the party lesson and life systems on a sound basis, rectify party discipline, bring into play the model and leading role of party members, and actively popularize systems for examining and assessing party members and for having party members keep in touch with the masses by being responsible for households. We must bring into play the role of the CYL, Federation of Women, and militia organization. We should undertake the building of civilized villages by carrying out education of various types for the peasants in "upholding one thing," "keeping two things unchanged," "taking simultaneous account of the interests of three things," and the "four prohibitions," and in observing the planned parenthood regulations.

7. Carry out universal training of grassroots party members and rotational training of commune and brigade cadres. This is to be done in a planned way. Every county CCP Committee must draw up a specific plan. We must make use of the slack agricultural season, during which the communes should adopt various methods such as collecting everyone together for lessons, holding individual group discussions and so on to conduct education for the party members in the nature, work style, discipline, and current policies of the party. For the cadres, the main thing is to seriously study the "minutes of the national rural work conference" circulated by the CCP Central Committee,

and truly master this document. The county party committees should continually study the party's principles and policies in close connection with reality and exchange experiences in grassroots work by summing up experiences and carrying out rotational training of commune cadres. The prefectural and county CCP committee party schools should carry out planned training of the principal leading commune and brigade cadres; they should study Marxist-Leninist philosophy and economic theory and continually enhance their level of ideology and policy and their work ability.

8. The county CCP committees should organize temporary rural work groups in light of the needs of rural work; under the leadership of county-level leading cadres, they should go down to the grassroots to carry out inspection, supervision, investigation and study. They must go right down to stay at selected basic units and help the grassroots to solve practical problems. At present the effort should be concentrated on halting the three sinister trends of forcibly occupying land for building houses, indiscriminate tree-felling, and sharing out collective property. The method is to combine the teaching of party members and cadres to take the lead with the handling of individual cases of violations of law. It is also necessary to help the grassroots to solve certain longstanding, great and difficult problems. We must vigorously support cadres who are just in their dealings and bold in handling problems.

9. It is necessary to gradually set up commune police stations in order to preserve social order in the rural areas, protect the collective economy and promptly deal with criminal cases. The number of personnel assigned to these stations depends on the size of the commune (the establishment question is to be solved among the public security ranks). Under the leadership of the county public security bureaus and commune party committees, these stations are to strengthen public order work in the rural areas and bring into play the role of grassroots security and civil mediation organizations.

10. Seriously implement the remuneration for grassroots cadres. The county CCP committees are to lay down clear stipulations according to the circumstances for the limits of grassroot cadre remuneration. The communes must clearly stipulate the number of brigade and production team cadres who can receive subsidies and the methods of paying them, bases on the spirit of better troops and simpler administration. It is necessary to stipulate work tasks, rules and regulations for the grassroots cadres, establish job responsibility systems, and lay down measures for handing out rewards and penalties.

CSO: 4007/396

YANG YICHEN WATCHES PLANTERS' TRIAL OPERATION

SK300515 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT
29 Apr 82

[Excerpts] According to our reporter (Liu Baiying), there is good news for peasants who grow food grains other than wheat and rice. After many years of research, corn precision seed planters and hand-guided intertilling planters have been successfully trial-produced. They were proved to be very efficient at a recent trial operation in the (Xingfu) commune of Shuangcheng County.

The result of the scientific research on the corn precision seed planter has filled in a blank in our province's corn precision dibbling and indicates that our province's agricultural mechanization has reached a new level. Corn fields in our province cover a relatively large area, accounting for approximately one-third of the province's grain acreage. Making a breakthrough in mechanized corn sowing and precision dibbling is an urgent issue which needs to be solved and has been studied by agricultural scientific research departments for a long time.

After an appraisal at the trial operation, experts held that the hand-guided intertilling planter is a relatively ideal and very applicable small farm machine in our province's rural areas. It meets the need of the rural areas after various responsibility systems have been established.

Simple in structure, small in size and highly efficient, the hand-guided intertilling planter can sow 25 mu of farmlands per hour at a cost of 2 jiao. It is very popular among the peasants. Not long ago, 700 such planters were sold out as soon as manufacturers put them on the market.

Leading comrades of the provincial CCP committee and the provincial people's government including Yang Yichen and Wang Luming recently went to the (Xingfu) commune of Shuangcheng County to watch the demonstration of mechanized sowing in corn fields. They spoke highly of the success in trial producing the corn precision seed planters and hand-guided intertilling planters.

CSO: 4007/396

HEGANG CITY FOOD PROCESSING INDUSTRY GAINS NEW GROUND

Grain, Oil Management Combined

Harbin HEILONGJIANG RIBAO in Chinese 12 Jan 82 p 1

[Article by Communications Group of the Provincial Grain Bureau: "Being the First To Turn Losses Into Profits in Managing Food Grains in the Province, Hegang Has Created New Path in Processing Oils and Food Grains; Last Year It Made a Profit of 1.02 Million Yuan, Following Profit of 570,000 Yuan the Year Before Last"]

[Text] The Hegang Municipal Food Grain Department has broken away from the old limitations of separate management of food grains and edible oils. It has combined the management of food grains and oil with the development of food processing and actively launched diversification. This has provided convenience in the life of the masses and also has turned around many years of business losses. In 1980, a profit of 570,000 yuan was made. In 1981, profits reached 1.02 million yuan; [thus,] this became the first food grain department in the province to make a profit 2 years in a row.

This city's food grain department had suffered losses for many years. In 1976, losses reached 12.52 million yuan, an increase of 11 times the 1966 figure. Following the Third Plenary Session of the 11th Chinese Communist Party Central Committee, the broad number of workers carried out a conscientious analysis and study and believed that managing one single commodity and managing it poorly were the important reasons for such losses. They liberated their thinking and lifted self-imposed restrictions to develop diversification. They conscientiously managed three links.

They developed diversification and improved economic results. They reformed technology, improved the percentage of finished products, and reduced the processing cost of food grains and edible oils. At the same time, they paid special attention to the comprehensive utilization of sideline products. They used corn embryo and corn embryo cakes to press edible oil. They used soybean dregs to manufacture soybean protein powder. They extracted such products as phosphatides from oil dregs and organized exports so that they became an important source for increasing income.

They developed food production and increased the profits of food grain shops. In the past, food grain shops throughout the city sold only uncooked food grains and oil and did not sell cooked foods. Now, they use simple methods and the method of "snowballing." The city's food grain bureau subsidizes a little money and materials to enable the shops to add simple equipment and to build simple shacks and tents next to the shops. Food processing facilities behind the shops have been set up by 54 different food grain shops, and 7 small noodle plants and food service departments have been set up at 12 mines and mine pits to process and sell beans and soup, oil sticks, muffins, baked muffins, sweet bean dumplings, bean curd pudding, and sweet dumplings for the Lantern Festival--a total of more than 10 varieties of foods to supply the market. Many foods have been sold by the food grain stores and also at kiosks in the marketplace. Some 120 trucks are driven through the streets to various places and factories. At present, the food grain stores of this city have become general food stores. Eight food grain stores that negotiate price sales have been set up throughout the city. Shelled peanuts, rice, sesame, mung beans, and polished glutinous rice have been brought in from other provinces to supplement the different needs of the residents. Last year's profit on food grain sales and the profit on negotiated prices throughout the city in 1980 increased 6.9 percent and 11.8 percent, respectively.

Develop the potential in conservation; reduce storage losses. In recent years, the city's Food Grain Bureau have been storing food grains at docks and storing food grains in loose form in warehouses, utilizing temperature differences between the seasons to enlarge warehousing capacity. At the same time, mechanized operations are being utilizied. The backward method of the past of manually transporting food grains has been changed. Unprocessed food grains are loaded, unloaded, transported and stored in "four loose forms," thus reducing packaging equipment. They also have carried out important measures to inspect the weight and quality of warehoused food grains, dried damp food grain, and rationed and paid for food grains directly according to the changes in season. Intermediate steps have been reduced, and costs have been lowered.

Commentary Calls for Emulation

Harbin HEILONGJIANG RIBAO in Chinese 12 Jan 82 p 1

[Commentary: "Travel the Path of Processing Edible Oils and Foodstuffs"]

[Text] The Hegang Municipal Food Grain Department has lifted its spirit, liberated its thinking, broken away from the narrow path of the past of solely managing food grain and edible oils, and created a new road to engage in food processing for food grains and edible oils. This has improved food supplies in the market and provided convenience for the people, and it has also turned business losses around and created the province's first food grain management business covering a large area without suffering losses. Their experience is very important and precious and is worth studying conscientiously by the food grain departments of all localities.

What is the task of the food grain department? Of course, it should be to manage well the procurement, storage, and supply of agricultural products such as food grains. In the past, the food grain department had always done this. Considering objective needs, however, just doing this has long become insufficient. As the standard of living of the people gradually rises, the broad masses are urgently demanding that more food and inexpensive food be supplied to them. To reduce the burden of house chores so that more time can be found for working and learning, they also need to obtain a richer supply of foods in the market. This requires the food grain department to follow the road of food and edible oil processing on the basis of managing the supply of food grains and edible oils well and to join the foodstuffs industry departments and commerce departments in further developing the food processing industry. As for the food grain department itself, this is a fundamental way to turn management losses around and reduce the state's financial burden. Via industrial processing, food grains and other agricultural byproducts can be converted into sugar and wine and oil and starch and nutritious foods, health foods, medicinal foods, etc. This does not mean changing the material forms of food grains and other agricultural byproducts for the convenience of the people to consume but means fully extracting and rationally utilizing the nutritious contents of edible raw materials. In this sense, food processing itself increases and conserves social wealth. The better the food grain department does this job, the more social wealth will be created and conserved, and profits will necessarily increase. In this way, the dead "chip" of losses in managing food grains will be brought to life. Buy more, sell more, and lose more will be changed to buy more, sell more, and profit more.

Now, many of our province's food grain departments have gradually emphasized the processing of food grains and edible oils and have established "shop fronts with food factories in the back" on a widespread basis. Food shops that concurrently engage in food processing are welcome, but this type of processing is mostly at a low level because of lack of familiarity in acquiring skills. The road is still very narrow, and even such simple processing has not yet been established in some localities. This shows that some comrades still lack an understanding of the important significance of food processing. The leading comrades of the food grain departments in each locality should begin by increasing understanding, planning well, and gradually developing the food processing industry for food grains and edible oils as the direction for future development. They should also learn advanced domestic and foreign experiences, strengthen scientific research in the foodstuffs industry, and continue to open up new fields in the processing of food grains and edible oils so that processing techniques can gradually develop a higher level. The processing of food grains and edible oils is something that benefits the people and society greatly. Each profession and business should pay attention and should help the food grain department by providing capital, materials, locations, and techniques so that it will be able to do this well. At the same time, attention must be paid to strictly implement price policies and to use "industry to supplement commerce, use negotiated prices to make up for lower prices, use imports to nurture local products, and use profits to make up for deficits," within the confines established by policy. Equalizing prices and increasing prices at will should never be allowed.

Our province is an important agricultural base for the nation. It has especially superior conditions for developing an industry to process food grains and edible oils. We should have more confidence in promoting our province's food processing industry to process food grains and edible oils and to realize new achievements in enlivening the market, improving the people's life, and turning around losses in food grain management and sales.

9296
CSO: 4007/216

BRIEFS

FOREST INSECT PESTS--Since the beginning of April, some forest areas in Heilongjiang Province, including Yichun, Mudanjiang, Hejiang and Songhuajiang forest areas, have been plagued by insect pests covering some 400,000 mu. Department concerned disclosed that the plague situation is worsening and urged all localities to give accurate forecasts and information on insect pests and devise plans to control them. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 28 Apr 82 SK]

MAY TEMPERATURES--According to the central and Heilongjiang provincial meteorological departments, temperatures in May in the province are normal, and may rise slightly higher than usual. Rainfall will increase 10 to 20 percent in Nenjiang and Heihe prefectures. Other localities will receive 10-20 percent less rainfall than the previous year. Rainfall will be concentrated in middle and late May. The favorable temperature conditions are conducive to field crop cultivation. A drought in the southwestern part of the province will possibly occur. [SK012214 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 30 Apr 82 SK]

BEET SOWING OPERATION--By the end of April, Suiling County, Heilongjiang Province, had sowed 63,000 mu of beet crop, overfulfilling its sowing plan by 3,000 mu. The county's beet sowing plan for this year is 90,000 mu which will be cultivated by collectives and it has also assigned its commune members to sow 60,000 mu of beets on their private plots or fodder fields. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 1 May 82 SK]

AFFORESTATION PROJECTS--Songhuajiang Prefecture, Heilongjiang Province, as of 27 April had planted 500,000 mu of trees and overfulfilled its spring afforestation plan and surpassed the figure of the corresponding 1981 period by 39 percent. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 27 Apr 82 SK]

CSO: 4007/396

'XINHUA' URGES GREATER ATTENTION TO RURAL MARKETS

OW260353 Beijing XINHUA Domestic Service in Chinese 0014 GMT 25 Apr 82

[XINHUA correspondent's commentary: "It Is Necessary To Attach Importance to and Study Rural Markets"]

[Text] Changsha, 25 Apr (XINHUA)--The Ministry of Light Industry recently held a national fair in Changsha on light industrial goods for rural areas. During the brief 7-day session, over 83,000 purchasing contracts were signed between light industrial enterprises and representatives of rural supply and marketing cooperatives from various parts of the country; total turnover exceeded 1 billion yuan. The brisk purchasing and marketing activities at the fair show that there is a huge market in the countryside. Therefore, production departments of daily consumer goods must attach importance to and study rural markets and strive to turn out goods that meet the demands of rural markets.

Only some 5,000 representatives of rural supply and marketing cooperatives were invited to the fair, but total attendance exceeded 30,000. How can a fair attract so many comrades from rural supply and marketing cooperatives? The answer is that peasants are urgently in need of daily consumer goods. Many representatives of supply and marketing cooperatives reflected that since the peasants' living standards have greatly improved in recent years, supply and marketing cooperatives are having difficulties supplying peasants with sufficient commodities. For this reason, the representatives brought with them long ordering lists and huge sums of money. At the fair, it was surprising to find that trade talks were so active, transactions concluded so quickly and turnover so big. Many nonbrand name products selling slowly in some localities became quick selling items at the fair. Orders for the Kunpeng-brand bicycle produced in Hunan Province--which has a market plan of only 50,000 bicycles--reached 500,000 during the first 2 days of the fair.

The brisk sales at the fair deeply impressed the comrades of the light industrial departments. They said: One of the important factors for the current stockpiling and sluggish sales of some daily consumer goods in some localities is the lack of attention being given to opening up the huge rural market; other factors are that variety and design of some commodities do not meet market demand and that commercial channels are obstructed. In some localities, daily consumer goods production departments tend to attach undue emphasis on cities and overlook the countryside with regard to production arrangement, material distribution and product design. Consequently, they pay more attention to the needs of cities and less to the countryside, and product variety and design tend to fall in with the tastes of urban consumers rather than the needs of peasants.

Also, we can see that among the daily consumer goods on display, some are unsuitable for marketing in the rural areas. For instance, pure cotton textiles needed by the peasants are scarce. The style and design of garments are too outlandish. Most of the leather and plastic shoes are too small, slender and high-heeled, contrary to the needs of peasants who require larger-sized, medium- or low-heeled shoes with broad soles. Moreover, plastic goods, cooking utensils, ceramicware, furniture and small daily commodities are more suitable for use by small families in cities rather than for families in the countryside. This shows that the daily consumer goods production departments are unfamiliar with peasants. They are short of study on the peasants' consumption pattern, mentality and spending habits and lack understanding of the changes in rural market needs.

Ours is a country with a peasant population of 800 million. The peasants have more and more money at their disposal since the implementation of the production responsibility system in the rural areas. If the production and supply of daily consumer goods fail to meet their needs, currency recovery, the stability of commodity prices, the worker-peasant alliance and social stability and unity would be adversely affected. For this reason, the development of daily consumer goods needed by the countryside is not solely a matter that concerns production and the economy but is also an important event having a bearing on the overall situation.

To enable daily consumer goods to freely enter rural markets, it is presently necessary to vigorously broaden the channels for product circulation in the rural areas; in addition, industrial enterprises must set up organizations to collect rural market information, organize product designers to come up with new products catering to peasant needs, deliver products to rural areas for trial marketing and sales exhibitions and canvass the peasants' opinions.

Many comrades of the rural supply and marketing cooperatives who attended the fair have reflected that currently there are still many problems with regard to the supply of daily consumer goods to rural areas. First, the quantity of consumer goods shipped to rural areas is insufficient. Product variety, design and specifications are incomplete. Peasants have almost no access to hot items--particularly bicycles, sewing machines and low-priced wristwatches--because they are often retained at various levels and sold by favoritism. Second, there are too many links obstructing the free circulation of products. Third, some localities and departments impose barriers and arbitrarily block commodity circulation. These problems must be seriously studied and resolved.

Commercial departments must attach importance to and study rural markets. They must earnestly adhere to the principle of "giving priority to cities in the supply of agricultural and sideline products and giving priority to the countryside in the supply of daily industrial goods." They must appropriately expand the proportion of daily consumer goods sold in the countryside and economically support the operation of rural supply and marketing cooperatives in implementing various policies. A new situation will soon emerge in the production and supply of daily consumer goods to the countryside as long as we pay attention to and closely cooperate with the various departments.

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BRIEFS

HOG PROCUREMENT--In the first quarter of this year, 4 million hogs were procured in Jiangsu Province, an increase of more than 20 percent over the same period last year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 21 Apr 82 OW]

CSO: 4007/396

BRIEFS

NORTHERN COTTON PLANTING--By 18 April the task of planting 640,000 mu to cotton in the northern Jiangxi cotton-growing area was basically completed. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Apr 82 OW]

CSO: 4007/396

BRIEFS

SPRING FARMING--More than 2.8 million peasants in Jilin Province have plunged into spring farming every day. As of 20 April, the province planted 9.32 million mu of various crops, an increase of 1.62 million over the corresponding 1981 period, and grew 240,000 mu of paddy seedlings, an increase of 40,000 mu. [SK211015 Changchun Jilin Provincial Service in Mandarin 2200 GMT 20 Apr 82 SK]

ARTIFICIAL RAIN--The Jilin Provincial Civil Aviation Bureau dispatched airplanes to make artificial rain in Nongan, Huaide, Changling and Yongji counties on 28 April. The artificial rain would help ease the drought in these counties. [SK292214 Changchun Jilin Provincial Service in Mandarin 2200 GMT 28 Apr 82 SK]

WEATHER FORECAST--The Jilin provincial weather station forecast on 24 April that, affected by low pressure in the Mongolian area, Jilin Province will experience high temperatures before 26 April. The highest temperature will be 25-27 degrees centigrade. Baicheng Prefecture may reach 28-30 degrees centigrade. Plains areas will experience 7-8 grade southwesterly wind. Beginning 26 April, cold spells will hit Jilin Province and cause temperatures to drop. Most areas will experience rainfall and 6-7 grade gales. The weather station urged all peasants to strengthen seedbed management because now is the time for cultivating paddy rice seedlings. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 24 Apr 82 SK]

SOYBEAN SOWING--Yushu County, a soybean base in Jilin Province, plans to expand 3,000 mu of farmland to grow soybeans this year. By 21 April, the county had sowed 270,000 mu of the soybean crop. [SK292238 Changchun Jilin Provincial Service in Mandarin 1100 GMT 27 Apr 82 SK]

TREE PLANTING--Jilin Province achieved remarkable results in spring afforestation. As of 16 April, the province had afforested 1.01 million mu of land and grew 119,000 mu of saplings. Various cities and towns across the province planted 13.27 million trees on a voluntary basis, and rural areas planted 27.4 million trees. According to statistics compiled from early April to 16 April, some 8.79 million people in urban and rural areas participated in tree-planting activities. However, the development of afforestation work is uneven in the province. Supplies of big stocks fall short of demands. [SK232222 Changchun Jilin Provincial Service in Mandarin 1100 GMT 22 Apr 82 SK]

SPRING SOWING--Yushu County in Jilin Province has adopted three measures to fully utilize farm machines in spring farming. The county is dispatching some 2,000 tractors daily and has so far had 2.56 million mu sown to field crops, 70 percent of the field crops acreage. [SK242205 Changchun Jilin Provincial Service in Mandarin 1100 GMT 23 Apr 82 SK]

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BRIEFS

CHAOYANG SPRING SOWING--Drought-ridden Chaoyang Prefecture in Liaoning Province has lost no time in sowing while there is sufficient moisture in the soil after rainfall on 27 April. From 27 to 30 April, the prefecture crash sowed 700,000 mu of crops. Jianping County has 110,000 persons work on a crash basis and has sown 600,000 mu of improved varieties of crops to date, accounting for 30 percent of the farming acreage. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 1 May 82 SK]

RAINFALL REPORTS--Rain fell in many places of Liaoning Province on 28 April at the opportune time to combat drought and carry out spring farming. Precipitation calculated by 1600 on 28 April was 10 to 22 millimeters in Chaoyang Prefecture; 5 to 10 millimeters in Jinzhou, Fuxin, Tieling, Shenyang, Anshan and Yingkou; 1 to 3 millimeters in Dalian and Fushun; and below 1 millimeter in Benxi and Dandong. The rain would temporarily ease the drought in the western part of the province. But the drought is so serious that it is far from being relieved by the rain. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 28 Apr 82 SK]

FARM MARKETS--Urban and rural trade fairs in Liaoning Province enjoyed a good business during the usually slack first quarter. According to statistics on 1,159 trade fairs in 12 municipalities and prefectures, their aggregate volume of sales during the first quarter was 245 million yuan, an increase of 56 percent over the corresponding 1981 period. The average price of trade fairs dropped 4.04 percent from the level in the first quarter of 1981. [SK030501 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 1 May 82 SK]

CSO: 4007/396

PREVENTION OF FOREST FIRES URGED

SK291156 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 28 Apr 82

[Excerpts] According to our reporter (Li Runde), on the evening of 27 April the Nei Monggol Autonomous Regional People's Government sponsored an emergency telephone meeting to draw up plans for forest protection and forest fires prevention throughout the region. The meeting urged localities to sum up experiences gained in this regard, to strengthen their leadership over the work and to adopt effective measures to make further efforts to successfully prevent forest fires.

Shi Guanghua, vice chairman of the regional people's government, presided over the meeting and delivered a speech. Attending the meeting were responsible comrades from various league and municipal party and government organs and the regional-level departments and bureaus concerned.

The meeting noted: Since this spring, the region has scored remarkable achievements in preventing fires. Many advanced units and individuals have emerged in this work. However, the development of fire prevention work in various localities is not even. Leading cadres in some localities and units lack full understanding of the importance of fire prevention and have not exerted sufficient efforts to conduct education and propaganda work concerning the importance of fire prevention among the people. In addition, fire prevention organization is not perfect. Since 1 March, the region has consecutively experienced fires. According to initial statistics, 153 accidental fires have broken out throughout the region since the beginning of 1982, such as in (Ulanhada) commune in Jarud Banner, whose members caused a fire by boiling water at an outdoor area, burning 1 million mu of grassland, including 100,000 mu of forests.

To achieve good results, the meeting urged localities throughout the region to earnestly fulfill the following tasks:

1. Further efforts should be made to enhance leadership over the work of preventing fires.

2. It is necessary to earnestly draw a clear line of demarcation among areas which are responsible for preventing fire and enact fire-prevention responsibility systems.

3. Efforts should be made to earnestly do a good job in conducting education and propaganda work on the importance of fire prevention among the people and to strictly deal with the cases of accidental fires so as to ensure that fire prevention and forest protection can be carried out in line with the law.

4. Localities throughout the region should make further efforts to do a good job in the organizational, command and rear service work of putting out fires. Personnel who have caused great losses due to their ineffective action in putting out fires should be strictly dealt with.

5. The vicinity of pastoral residence areas, yurt villages and outdoor herding zones in various localities throughout the region should set up fire breaks with radius of 20-30 meters so as to guard the safety of herdsmen's property and lives and pastoral farms.

In conclusion, the meeting emphatically urged the people's government and departments concerned at all levels to earnestly implement various fire prevention measures with a high sense of responsibility and to take every possible means in fulfilling every fire prevention task so as to achieve smooth progress in realizing the four modernizations throughout the region.

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FARM MACHINERY INDUSTRY READJUSTED

SK030527 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 2 May 82

[Excerpts] In view of the changes after the institution of various production responsibility systems in the rural and pastoral areas, the regional farm machinery industrial enterprises have readjusted the product mix, shifting the stress of mainly producing large- and medium-sized farm and animal husbandry machines and implements in the past to producing medium-sized and small farm and animal husbandry machines and implements and persisted in the orientation of serving farm and animal husbandry production and the needs of peasants and herdsmen to end the passive state in which many enterprises are operating under capacity and to create a vigorous new situation. Since the 3d Plenary session of the 11th CCP Central Committee, farm machinery enterprises throughout the region have eliminated the influence of the leftist ideology, implemented the production and construction principle of the regional CCP committee on developing the diversified economy with a stress on forestry and animal husbandry and earnestly readjusted the production of farm machinery industry to enable this industry to make big strides forward to serve the needs of the rural and pastoral areas and to serve the production and livelihood of the peasants and herdsmen, the diversified economy, the markets preparing for spring plowing and the export industry. Through readjustment, five changes have emerged in the regional farm machinery enterprises.

First, the production arrangements have become more rational. Since April 1979, the Nei Monggol farm machinery bureau in accordance with the needs of economic development has closed down, suspended and amalgamated a number of enterprises and urged some of them to convert to other trades, reduced the number of personnel and carried out necessary readjustment in the farm machinery industry. Through readjustment our region has cut 25 farm machinery enterprises, 6,700 staff and workers and 600 pieces of equipment so that the products produced have become more suitable for the needs of developing our region's agricultural, animal husbandry and forestry production.

Second, the production orientation has been readjusted. Products are produced in line with the sales volume so as to basically end stockpiling. In the first quarter of this year, the net sales volume of enterprises under the regional farm machinery bureau increased 49.7 percent over the corresponding 1981 period.

Third, the product mix has been readjusted to gear the needs of the rural and pastoral areas where the production responsibility system of setting farm output quotas on a household basis and the system of individual households assuming full responsibility are implemented. According to statistics compiled by 44 farm machinery enterprises last year, our region produced 15 varieties of medium-sized and small farm machines and implements totaling 147,000 to satisfy the needs of agricultural and animal husbandry production throughout the region.

Fourth, a number of new product varieties have been researched and produced.

Fifth, the quality of products has been improved. All enterprises have universally carried out technical and service activities. During the readjustment, farm machinery production enterprises throughout the region have attached primary importance to improving product quality to enable products to find good markets to achieve good economic results and to enliven the business of enterprises.

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BRIEFS

COLD SPELL--According to the Nei Monggol weather station, a cold wave has entered Xinjiang from Siberia and will cause a drop in temperatures in most areas of our region on 25 and 26 April. The forecast calls for force-7 to force-8 westerly and northwesterly winds in northern areas of Alxa, Bayannur and Ulangab leagues, most areas of Xilin Gol League, and Hulun Buir, Xingan, Ju Ud and Jirem leagues. Temperatures in these areas will then drop 8 to 10 degrees. In other areas of our region, force-5 to force-6 westerly and northwesterly winds and a drop of 6 to 8 degrees in temperatures are forecast. [SK250444 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 24 Apr 82 SK]

SNOWFALL REPORT--Snow and rain fell in most parts of Nei Monggol region from 19 to 20 April. Snowfall and rainfall in the north pastoral areas was 2 to 3 millimeters. Precipitation in the southern areas was 3 to 10 millimeters. This is the first rain and snow in the region since the beginning of spring. It will help spring farming. [SK232217 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 22 Apr 82 SK]

OTOG BANNER LIVESTOCK--By the end of March, Otog Banner, Nei Monggol, produced 165,000 young animals, and 95.8 percent survived. [SK012212 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 30 Apr 82 SK]

XINGAN LEAGUE LIVESTOCK--Xingan League, Nei Monggol, achieved good results in spring livestock production. As of mid-April, the league had delivered over 300,000 young animals, and 87 percent survived. The death rate of animals decreased 50 percent from the corresponding 1981 period. [SK012209 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 30 Apr 82 SK]

ULANQAB LEAGUE WHEAT SOWING--Wheat sowing has basically been completed in Ulanqab League, Nei Monggol, as of 20 April. The league has sowed 4.25 million mu of wheat. [SK270400 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Apr 82 SK]

QINGSHUIHE COUNTY AFFORESTATION--In Nei Monggol, Qingshuihe County has afforested some 32,600 mu this spring and planted 238,000 trees along roads and around houses, overfulfilling its annual targets. [SK292232 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 27 Apr 82 SK]

CSO: 4007/396

LI CHANG REPORTS ON RURAL ECONOMY

HK040650 Yinchuan NINGXIA RIBAO in Chinese 20 Apr 82 p 1

[Report: "Comrade Li Chang in His Report at Regional Cadre Meeting Proposes Bringing Into Play the Role of Science and Technology, Building Base Counties for Agricultural Modernization"]

[Text] Li Chang, adviser of the leading party group and executive chairman of the Presidium of the Chinese Academy of Sciences, gave a report in Yinchuan municipality on 17 April for the cadres and scientific workers at and above the department level of the Ningxia Hui Autonomous Region.

In his report, Comrade Li Chang analyzed the advantages for developing our regional economy and existing problems. After expounding on the aim of socialist social production, he pointed out: "From the viewpoint of promoting farm production and ensuring supplies, the present population growth rate in Ningxia is increasing too fast, and has already exceeded the rate of increase of grain output, which has resulted in an acute contradiction between supply and demand. Thus it can be said that tightening control over population growth has now become a strategic task of prime importance which is also the main way of tapping potential in the autonomous region. As for making full use of potential in Ningxia, it is necessary to further implement all party policies and improve the production responsibility system in agriculture as much as possible. Furthermore, it is necessary to bring into full play the role of science and technology and to organize and mobilize all scientific and technical personnel. Only by so doing can we tap the latent power of agricultural production in uncultivated areas and solve the contradictions between agriculture, forestry and livestock breeding, as well as promote diversified undertakings, improve circulation of commodities, promote a well-balanced ecological environment and do well in readjusting and restructuring industry.

After discussing the development of modern science and technology in his report, Comrade Li Chang stressed the importance of strengthening scientific and technical work. According to the present status and development needs in Ningxia, he put forward five suggestions for promoting scientific and technical work: 1) emphatically tackling subjects which are appropriate to economic and social development in Ningxia and selecting a proper technological structure for overall development; 2) promoting science in a systematic way and enhancing managerial level; 3) setting up research centers first on subjects related to accelerating agricultural modernization and then gradually on science and technology; 4) uniting all scientific and technical personnel and convincing persons from Beijing, Shanghai and other large municipalities to come to Ningxia for short- or long-term work and academic activities; 5) strengthening higher education and adult education in the autonomous region and establishing a system for promoting scientific and technical activities among the masses of people in urban and rural areas.

Comrade Li Chang then made an analysis and spoke briefly on the situation in Yanchi and Guyuan counties which have been selected as two trial base counties for agricultural modernization by the Chinese Academy of Sciences with coordination of the leadership at the autonomous region, prefecture and county levels. He then pointed out: "Agricultural modernization involves comprehensive application of modern science and technology and overall development of agriculture, forestry, animal husbandry, industry and commerce by absorbing or improving the traditional method of plowing. This also [word indistinct] to creating a well-balanced ecological environment and steady development of rural economy." He also pointed out: "Over the past few years, comprehensive investigations of agricultural natural resources have been made, and relevant work has been accomplished in agricultural regionalization in Yanchi and Guyuan counties. A correct principle of developing farm production has been set and gratifying successes have been scored at key trial sites. Now efforts will be made to set up some more key trial sites according to plan throughout the two counties. Thus we will be able to promote overall economic development in all counties by drawing on the experiences gained from these key sites and step by step put an end to the grave situation where yield is always low in areas of extensive cultivation, and where the more land reclaimed, the greater the waste. We must, on the one hand, promote agriculture, forestry, animal husbandry and rural sideline production in an all-round way. On the other hand, we must develop agricultural production, industry and commerce simultaneously. No big advance can be made in rural economy unless development is made in both respects.

In his report, Comrade Li Chang proposed that attention be paid to planned parenthood and control over population growth in the base counties for agricultural modernization. At the same time, efforts should be made to raise grain output and average income of commune members to the highest possible level in similar counties in drought and semi-drought areas and in loess plateau. Proper readjustment should be made to farm production in vast areas of extensive planting by using modern technology. Improvement must be made to the ecological environment so as to put an end to the grave situation in land utilization. It is also necessary to continue to raise the level of science and technology in the region and cultivate wisdom among the people so that agricultural production can be further developed during the Seventh 5-Year Plan.

On the basis of the practical experiences gained in the past few years from the whole country, Comrade Li Chang put forth the following six suggestions for methods of working on the new experiments in agricultural modernization: 1) under the party's leadership, leaders at all levels, experts and the masses must be integrated. In applying science and technology, local experts and scientific and technical personnel must seek help and advice from scientists. 2) Scientific workers in all fields must pool their efforts and strengthen their cooperation for tackling key problems in science and technology. 3) In the base counties for agricultural modernization, modernization must be aimed at helping peasants to become affluent so that immediate interests can also be satisfied in the long-term plan. 4) It is necessary to make comprehensive investigations in all areas by making some breakthroughs at the experimental key sites, to promote modernization in the base counties by first drawing on experiences from some experimental key sites, and then promoting them in all similar counties of the autonomous region and the drought areas in loess plateau. 5) It is necessary to set up a technological system to train technical personnel as reserve forces. 6) In the base counties for agricultural modernization, it is necessary to strengthen the building of socialist cultural civilization together with the building of socialist material civilization so as to build up a new-type countryside of socialism.

CSO: 4007/396

BRIEFS

HOG PROCUREMENT--In the first quarter of 1982, Qinghai Province procured 18,100 hogs, up 32.1 percent over the corresponding 1981 period, and 116,000 jin of eggs, an increase of 28.9 percent. [SK031037 Xining Qinghai Provincial Service in Mandarin 2330 GMT 2 May 82 SK]

CSO: 4007/396

SHAANXI

BRIEFS

FARMWORK CIRCULAR--On 23 April, the Shaanxi Provincial People's Government issued an urgent circular on current agricultural production. The circular demanded that all places take such measures as are suitable to local conditions to do the following work well: first, it is essential to continue to grasp well the middle and final-stage management of summer crop fields; second, it is necessary to ensure a full stand of cotton shoots; and third, it is imperative to take actions against the reduction in pig production and to vigorously develop sow-breeding. [HK031415 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 25 Apr 82 HK]

CSO: 4007/396

BRIEFS

AQUATIC PRODUCTION--Shandong Province had good results with aquatic production in the first quarter. The quarterly output of aquatic products was 53,783 tons, an increase of 14,545 tons over the corresponding 1981 period. [SK232220 Jinan Shandong Provincial Service in Mandarin 2300 GMT 22 Apr 82 SK]

COTTON PROCESSING SYSTEM--Beginning in 1982, Shandong Province has instituted a joint cotton processing system to ensure the quality of cotton processing and economic results. This system encourages the establishment of plants funded jointly by the state, collective and individuals. Profits will be shared among stockholders. Procurement, storage, transport and all processing work are to be managed in a unified way under the leadership of supply and marketing cooperatives. [SK221330 Jinan Shandong Provincial Service in Mandarin 2300 GMT 21 Apr 82 SK]

CSO: 4007/396

CLASSIC INDICATORS OF ECONOMIC RESULTS FROM AGRICULTURE DISCUSSED

Chengdu SICHUAN RIBAO in Chinese 21 Jan 82 p 2

[Article by Wen Yanwen [3306 4282 2429]: "Efforts to Improve Results in The Agricultural Economy"]

[Text] At the moment, while continuing to make the rural economy prosper, how to improve results in the agricultural economy is a problem requiring diligent study and solution. Not long ago, Wenjiang Prefecture held a discussion meeting on economic results problems in the agricultural economy, which was devoted to preliminary study and discussion. This played a positive role in improving perceptions, in the exchange of experiences, and in promoting work.

Improvement of Results in the Agricultural Economy Is an Urgent Matter

Since the founding of the People's Republic, agricultural production in Wenjiang Prefecture has seen substantial growth; however, the not very good benefits from the agricultural economy has been a long enduring problem. In the past, as a result of the effects of "leftist" ideology, for a long period of time the mistaken "figuring up the political bill without figuring up the economic bill," whereby production was carried on without calculation of costs and attention was devoted to increasing production but not to increasing earnings, led to the appearance of "high output brigades that were poor," and slow rise in prosperity. Such "caring only that the lamp gives light with no regard for how much oil it consumes," in disregard of economic benefits has still not been thoroughly eradicated in some places. The several main criteria for economic results from agriculture used during the 10 years of turmoil all showed decline. Comparison of 1976 with 1966 showed that despite a 21 percent increase in total earnings from agriculture and sideline occupations throughout the prefecture, net earnings (meaning gross earnings minus production costs) had declined by 1 percent, and results derived from investment (meaning net earnings created for each yuan invested) had fallen by 37.9 percent. Results of investment of labor in agriculture (meaning net earnings produced per workday) fell 39 percent, and average net earnings of the agricultural population) fell 25 percent. With the smashing of the "gang of four," and particularly following implementation of the spirit of the 3rd Plenary Session of the 11th Party Central Committee, remarkable changes took place in the situation. Nevertheless, results in the agricultural economy continued not good, the reason being that the extent of increases in investment of funds and labor exceeded or approached the extent of increase in net earnings. Despite the rise in actual benefits received from investments of funds and labor in 1979 as compared with 1976, 1966's levels were not attained, and the 1980 returns on investments in funds continue to decline from those of the previous year. The reason that average per capita earnings in 1979 were 21 percent greater than in 1966 and that another increase took place in 1980 was, apart from the factor of a rise in prices paid for agricultural products, the fundamental lack of increase in the agricultural population resulting from the launching of planned parenthood work during the past several years.

Benefits derived from the agricultural economy directly affect the level of distributions by units in the collective economy. Good results in the agricultural economy mean development of production, and are manifested in the strength of the collective economy and increase in commune member earnings. A comparison of the entire prefecture with 6 "golden flower production teams" in which average per capita earnings distributions in 1979 amounted to more than 300 yuan, including the 4th Production Team of the 1st Production Brigade of Guihu Commune in Xindu County and the 4th Production Team of the 6th Production Brigade of Siping Commune in Shifang County, showed the following: In the 6 production teams, net earnings per yuan of investment were 2.17 times those in the prefecture as a whole, and net earnings per workday were 1.69 times higher. As a result, average per capita earnings were 2.03 times higher than for the prefecture as a whole, and average per capita distribution of earnings to commune members (including returns for manure provided), and the value of a day's work were respectively 1.64 times and 1.91 times higher. Looked at in terms of average per capita net earnings as a ratio of average per capita gross earnings, the percentage averaged 81.6 percent for the 6 production teams, and only 59.5 percent for the prefecture as a whole. From this may be seen that with continued eradication of the influence of "leftist" ideology, efforts to increase economic benefits from agriculture for the prefecture as a whole offer a very great potential and are an urgent task.

How to Measure the Economic Results of an Agricultural Production Unit

What is meant by economic results from agriculture is the relationship between "input" and "output," i.e., making a relatively small expenditure to obtain fairly large economic benefits. A current yardstick used for measuring economic results from agriculture that is used in some places is the productivity rate of agricultural labor. Some places use benefits per unit of investment, and some use soil productivity rate, etc., each method being valid. We believe that measurement based on average per capita net income is fairly accurate and equitable, and also handy to use. The formula is as follows:

An agricultural production unit's economic results = net earnings in a given year (gross earnings in a given year - production costs for the given year) + agricultural population for the given year. Use of this formua has the following principal advantages.

First it requires optimum benefits from investment of funds. "Net earnings" mean all the wealth created in any given year by an agricultural production unit. Use of the amount of average earnings of the agricultural population of a unit to determine economic results requires economy in and maximum equitability in investment of funds, so that total net earnings will increase to the maximum extent possible. Thus, economy in the investment of funds has to be done while increasing production rather than done negatively in order to increase economic benefits per unit of investment of funds.

Second, it reflects requirements for increase in the labor productivity rate. In every agricultural production unit, the ratio of population to work force is roughly the same; consequently, the amount of average per capita earnings also forms a rough ratio with the same amount of labor productivity. Increase in average per capita net earnings inevitably will require an increase in labor productivity. Conservation in the use of labor must likewise be done while increasing total output or total earnings, rather than be done negatively on the basis of the economic benefits derived from time per unit of labor.

Third, it is able to show in a comprehensive way the levels of production and the levels of management of an agricultural production unit. It requires that things be done in accordance with natural laws and economic laws, that advantages be used to the full, that avenues for production be opened, that advanced techniques be extended, and that the commodity production rate be increased. At the same time, in both the "broadening of sources of income," and "reducing expenditures, scientific management must be diligently practiced and systems of responsibility established to promote growth of production.

Broadening of Source of Income and Reducing Expenditures To Increase Results in the Agricultural Economy

The issue of improvement in results from the agricultural economy has fairly widespread ramifications. Looked at in terms of practical experience, basic key points should keep their eyes on the broadening of sources of income and reducing expenditures, devoting greater efforts to energetic development of agricultural sideline production to increase social wealth.

First, production patterns and the economic structure has to be equitably readjusted for a gradual transformation of the natural economy or the semi-natural economy into a predominantly social commodity economy in a new type agricultural economic system. The crux of improvement in economic results from agriculture lies in an all-around rise in agricultural production, the principal indicators of which are increases in the labor productivity rate, the soil productivity rate and the commodity production rate. The experience of numerous outstanding communes and brigades illustrates that the former agricultural economic structure of sole emphasis on grain militated against improvement in the economic results of production teams. Only through establishment of concepts of "large-scale agriculture," "large-scale production of grain," the adaptation of general methods to local situations, equitable readjustments, making the most of advantages, and vigorous development of economic diversification even while continuing to devote serious attention to grainproduction, taking the road of all-around development of agricultural sideline industries can poverty be overcome and prosperity be attained rapidly.

Second, a good job of cost accounting for production has to be done, with adherence to a program of thrift in the operation of communes, a strict system of financial management, efforts made to lower production costs, and use of the minimum expenditures to gain maximum economic results. The practice of numerous communes and brigades has demonstrated that agricultural production requires payment of an irreducible price. As production grows, certain necessary expenses will rise. However, the extent of increase in expenses must be smaller than the extent of increase in output and output value. If they are not, economic results will be impaired. In numerous production teams today, the utilization rate for farm machines and equipment is not high; chemical fertilizers and pesticides are not being applied properly; management of materials is not being attended to; waste is serious; production expenses have greatly increased; and net earnings have declined commensurately, which means real impairment in economic results from agriculture. It should also be pointed out that formerly some of our comrades did not factor expenditure of human labor into production costs, and the squandering of human labor was everwhere serious. The masses said, "It is not the hard work, but working for nothing that we fear." Consequently, in fugure agricultural production, in farm mechanization and capital construction of agriculture, certainly manpower, resources, financial resources, and material resources, are to be treasured to the greatest extent. There can be no arbitrary practice of giving blind commands, doing work that produces no benefit, or doing stupid jobs that provide no repayment.

Third is the need to establish strict systems of responsibility for production to make full use of the positive role of rural talent and science and technology. Commune members are masters of production teams. Getting economic results from the agricultural economy requires reliance on their enthusiasm and initiative, and making the most of their intelligence and ingenuity. Moreover, establishment of systems of responsibility for production, equitable use of human talent, and extension of advanced techniques are mutually supportive. They are able to make commune members better develop their talents to create wealth, and to win optimum economic benefits.

Naturally there is more to improving the economic results of agriculture than the preceding alone. There are tasks in other areas that also require attention. Furthermore, this is not solely a matter for production teams; upper echelon leaders and the various departments that have something to do with "agriculture" also have to create conditions for this. Only in this way can the economic results of agriculture as a whole be improved.

9432
CSO: 4007/239

WANG ENMAO INSPECTS SOUTHERN RURAL AREAS

HK261418 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 25 Apr 82

[Summary] While Xinjiang Regional CCP Committee First Secretary Wang Enmao was recently inspecting rural areas in the south Xinjiang region, he stressed: "In carrying out agricultural capital construction in Xinjiang, it is essential to adhere to the "five-goods," namely: setting up good strips of land for mechanized farming and building good channels, good roads, good forest belts and good management centers, to ensure comprehensive control over mountains, rivers, fields, forests, roads and villages. We must build the rural areas in Xinjiang into new and prosperous socialist rural areas where people live and work in peace and contentment."

At the beginning and in the middle of April, Wang Enmao and Amudun Niyaz, vice chairman of the regional people's government, went to Bayingolin Monggol Autonomous Prefecture and Hotan and Kashi Prefectures to inspect work. They conducted investigations and came to the following conclusion: In places which have perfected all forms of production responsibility systems and practically and realistically carried out farmland and water conservation capital construction, agricultural production has quickly developed, commune members' livelihood has greatly improved and their rural appearance has undergone a relatively great change." Wang Enmao said to cadres and the masses of various nationalities: "At present, we must sum up the experiences in implementing agricultural production responsibility system in rural areas, perfect the agricultural production responsibility system and stabilize it. To further develop agricultural production, we must not only devote ourselves to the responsibility system but must work hard to develop production." He said that before the Great Cultural Revolution, the regional CCP committee had put forth that in building rural areas, it was necessary to set up good strips of land for mechanized farming and build good channels, good roads, good forest belts and good management centers. After a long period of practice, the "five-goods" conforms to the reality of the region and is beneficial to the development of production and the improvement of people's livelihood. People have welcomed it. The "five-goods" must not only be restored but must also develop.

He said: "In building 'five-goods' rural areas, it is most important to build good water conservation projects, build good channels which are capable of irrigation and drainage, to level the ground well and set up strips of land well so that mechanized farming can be carried out on them. We must make even greater efforts to plant more trees. We must not only increase the number of trees but also improve the quality of trees. We must strengthen our ability to protect farmland and pastures from wind and sand. We must repair roads well." He also said that while building the "five-goods" rural areas, it is also necessary to build urban areas well. The region must formulate plans for building roads in urban areas well. In the future, houses must not be indiscriminately built in urban areas but must be built in accordance with the plans. After the region builds "five-goods" rural areas, production will develop, accumulation of collectives and peasants' income will increase and their livelihood will improve.

CSO: 4007/396

'XINJIANG RADIO' URGES BETTER RURAL LEADERSHIP

HK030354 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 2 May 82

[Station commentary: "Get a Good Grasp of Building Rural Production Team Leadership Groups"]

[Excerpt] The rural and pastoral areas of Xinjiang have instituted various types of production responsibility systems since the third plenary session, scoring notable results. The peasant masses have hailed the excellence of party policies.

However, in the wake of the changes in rural managment, some production team cadres hold that they have nothing to do since the institution of the systems of assigning fixed production quotas to each household or assigning the land to each household in exchange for fixed levies. They dare not work in a bold way or do anything about behavior that damages collective property. As a result some production teams are in a state of paralysis with nobody grasping production or looking after collective property. In these circumstances, it is essential to solve the serious questions of how the rural grassroots cadres can do their work well and how to bring into full play the functions of the production teams.

The rural brigades and production teams are collective [words indistinct] that shoulder important economic and political functions. The production teams are responsible for distribution and the fulfillment of contracts, and have to take good care of collective property. They have to formulate production plans over the whole year, fulfill the state procurement quotas, carry out yearend distribution, and look after the dependents of martyrs and servicemen, five-guarantee households and so on. As grassroots rural political power organizations, they have to promote social order, uphold the law, mediate in civil disputes, and grasp militia training, planned parenthood, public education and so on.

None of these tasks can be discarded following the institution of production responsibility systems. Moreover, due to the changes in management forms, it is also necessary to change some work methods, and some work has to be done more carefully. This means that the burdens of the rural cadres are heavier, not lighter, and the demands on them are higher than before. The role of the production team can only be strengthened, not weakened.

The key to bringing into play the role of the production teams lies in building their leadership groups. It is necessary to conduct rectification in a planned way in certain lax, paralyzed and semi-paralyzed teams, and readjust their leadership groups. We must follow the mass line and elect to the leadership groups comrades in the prime of life who have good ideology and work style, resolutely implement party policies, know how to manage, and possess cultural knowledge. We must establish post responsibility systems for cadres. We must commend and reward cadres who work well and score achievements, and criticize and educate those who do not work well. We must train the production team cadres in a planned way, and organize them to study the party's principles and policies, scientific agricultural knowledge, and advanced management experiences, and improve their work ability.

CSO: 4007/396

PEOPLE'S LIVING STANDARDS IMPROVE

HK271035 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 24 Apr 82

[Summary] The Yunnan Provincial Statistical Bureau conducted a survey of the financial situation of 610 commune-member households in 28 counties in the province, including embankment areas, mountainous areas, inland and border areas. The results of the survey revealed that last year, after the principles and policies of the party were further implemented, all forms of production responsibility systems were established and perfected and scientific farming was carried out, agricultural production quickly developed, commune members' income constantly increased and their livelihood improved.

"The average amount of grain allocated by the collectives to each person of the 610 commune-member households last year was 6 percent more than in the preceding year and the per capital net income obtained from the collectives was 80 yuan, 3.4 percent more than in the preceding year." The income of commune-members households increased relatively greatly, the number of well-off households increased and the number of poor households was reduced. "Last year, the per capita total income of the 610 commune-member households reached 202.9 yuan, 34.4 yuan more than in the preceding year, an increase of 20.4 percent. After deducting the charges spend on commune-members households sideline production and taxes, the per capita net income was 178.1 yuan, 30.4 yuan more than in the preceding year, an increase of 20.6 percent." The living standards of commune members improved. "Last year, of the net income of the 610 commune-member households, the per capita cash income reached 113.6 yuan, 30.5 yuan more than in the preceding year, an increase of 36.7 percent. After their cash income increased, their ability to purchase commodities increased correspondingly. Last year, each person spent an average of 86.1 yuan in cash on commodities. Of this 86.1 yuan, each person spent an average of 65 yuan on consumer goods, 13.8 yuan more than in the preceding year, an increase of 26.9 percent; each person spent an average 21.1 yuan in cash on means of production, 10 yuan more than in the preceding year, an increase of 90.1 percent." The number of bicycles, sewing machines, radios and watches owned by the commune members by the end of last year was 40.6 percent, 29.3 percent, 24.6 percent and 46.5 percent respectively more than in the preceding year.

From the survey, we can also see that the level of income of some commune members was still relatively low and their livelihood was still difficult. Of the 610 commune-member households, the number of households whose per capita net income last year was less than 80 yuan was 36, accounting for 5.9 percent. The majority of these households in difficulties are scattered in minority nationality border areas and inland mountainous areas. In future, we must support them economically and help them develop production.

CSO: 4007/396

BRIEFS

FOREST FIRE CIRCULAR--The Yunnan Provincial People's Government recently issued an urgent circular on prevention of forest fire. The circular demands that all places throughout the province take vigorous measures to prevent forest fires. The circular says that since the beginning of this year, forest fires in the province have been very serious. The number of forest fire accidents throughout the province by the end of March was 16.7 percent more than in the corresponding period of last year and the areas affected by forest fires were 21 percent more than in the same period last year. The province incurred economic losses of some 2.3 million yuan. In some places, villages were burnt and people and livestock were killed by forest fires. The circular demands that governments at all levels strengthen leadership over the protection of forests and the prevention of fire and in the light of the actual situation, conduct inspection and make specific arrangements. From now on, all prefectures, autonomous prefectures, municipalities and counties must each assign a principal leading cadre to take charge of this work. Communes, brigades and production teams must also assign people to take charge of this work. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 20 Apr 82 HK]

CSO: 4007/396

BRIEFS

PEASANTS' INCOME--From 1979 to 1981, the higher buying prices for grain and edible oil set by the government enabled the peasants in Zhejiang Province to earn additional income of 682 million yuan, averaging 20 yuan per capita among the rural population. [Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 14 Apr 82 OW]

CSO: 4007/396

END

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AGRICULTURE

No. 206

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21 May 1982

CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

STATE FARM, LAND RECLAMATION SYSTEM TASKS FOR 1982 CHARTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 25 Feb 82 p 1

[Article by Yu Xin [0060 2450]: "State Farm and Land Reclamation System To Have New Production Breakthroughs This Year. Conference of State Farm and Land Reclamation Bureau Directors Throughout the Country Summarizes Four Fundamental Experiences"]

[Text] Gao Yang [7559 2799], minister of the Ministry of State Farms and Land Reclamation said at a national conference of state farm and land reclamation department and bureau directors held in mid-February that "this year we will act in the spirit of Comrade Zhao Ziyang's government work report to the 4th Session of the 5th National People's Congress and on the basis of the fundamental experiences of more than 30 years of farm and land reclamation work to emphasize readjustment and reorganization of state farm and land reclamation production and construction for genuine increase in economic benefits and strive for new breakthroughs during 1982 in state farm and land reclamation production and construction throughout the country."

After more than 30 years of development and construction, state farm and land reclamation endeavors are a force that cannot be ignored in the national economy. Nationally the state farm and land reclamation system's commodity grain rate is about 60 percent; its natural rubber output accounts for 90 percent of the national total; 80 percent of the supply of fresh milk to large and medium-size cities comes from the state farm and land reclamation system. Consequently, further development of state farm and land reclamation endeavors possesses important significance for increasing the country's economic strength and improving the people's livelihood.

Summary of more than 30 years of state farm and land reclamation endeavors brought out four fundamental experiences. First was the need to define the goals of operating socialist farms. Production and construction must take into consideration natural conditions and economic results with economic accounting being done strictly in accordance with requirements for operating enterprises in order to provide, to the maximum extent possible, products and profits to the country. Second, state farms must move from unitary operations to multiple agricultural, industrial, and commercial operations. Third was strict practice of the principle of distributions according to work to arouse the enthusiasm of staff and workers and to increase the labor productivity rate. Fourth was that only through attaching major importance to the application of modern agricultural science and technology and scientific management methods can state farming and land reclamation be modernized.

A look back at historical experiences shows that in order to develop a fine situation in state farm and land reclamation, the focus this year should go to reorganization of enterprises to increase economic benefits, giving attention to the following several tasks: (1) Further perfection of production responsibility systems, with proper setting of production criteria, cost criteria, labor quotas, and proportional distribution of profits in the practice of production responsibility systems. Achievement of proper handling of the relationship among the state, the collective, and individuals, both arousing the enthusiasm of staff and workers and not adding hardships for the state through reckless issuance of bonuses. (2) Active development of economic diversification. Specific measures for development should be worked out on the basis of the new situation and the new problems that have emerged for production from industry, the rubber growing industry, the animal husbandry industry, and the fruit tree industry. In the course of their development, combined agricultural, industrial, and commercial enterprises should devote attention to organization of production that breaks through regional and trade and industry boundaries. (3) Increase in farm staff and worker cultural and scientific levels in the promotion of modernization of farm production. (4) Strict economic accounting. Devote urgent efforts to the build up and continued training of upper and middle-ranking financial accounting cadres for a gradual contraction of all unreasonable expenditures and a decline in production costs for genuine increase in economic benefits from enterprises. (5) Improvement in farm leadership. On the principles of socialist enterprise management to hold staff and worker congresses, to build systems of responsibility for plant managers in fact as well as in name, and institute effective management of enterprises.

State farm and land reclamation department and bureau directors attending the conference from the various provinces, municipalities, and autonomous regions indicated their desire to take in hand an all-around reorganization to tap fully enterprise potential, to strive to fulfill and overfulfill this year's production and construction plans, and to develop a fine situation in state farm and land reclamation.

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CSO: 4007/282

BRIEFS

WHEAT FOR PRC--China has placed its largest order for Canadian wheat in history and it is worth more than $2 billion. The 3-year contract replaces one of similar length and starts on 1 August. China has agreed to buy between 3.5 million and 4.2 million metric tons of wheat, under the previous contract Canada sold China between 2.8 million and 3.5 million tons. China is the second largest purchaser of Canadian wheat after the Soviet Union, which buys an average of 5 million tons a year. [Text] [LD060059 Montreal Domestic Service in English 1900 GMT 5 May 82]

CSO: 4020/126

BRIEFS

PREFECTURE COTTON--By mid-April, Anhui's Anqing Prefecture had fulfilled cotton planting on 600,000 mu. [OW091910 Hefei Anhui Provincial Service in Mandarin 1100 GMT 8 May 82]

CSO: 4007/406

EXHORTATIONS ISSUED FOR EARLY SPRING CARE OF OVERWINTERING CROPS

Beijing ZHONGGUO NONGMIN BAO in Chinese 21 Feb 82 p 2

[Article: "Good Care of Overwintering Crops To Win Bumper Summer Grain Harvest"]

[Text] Summer grain and oil-bearing crop production occupy a major position in agricultural production for the whole year, their outputs amounting to 20 percent and 40 percent respectively of total annual output of grain and oil-bearing crops. This year, when the state wants grain output to exceed all-time highs, winning a new breakthrough in summer grain seems ever more important.

Because of the general establishment of various forms of production responsibility systems at sowing time last fall and winter quality of sowing was generally pretty good, and both fertilizer and fine varieties were more numerous than in previous years. Postplanting fertilization, cultivation, raking and rolling of the soil, and winter watering were done over a wider area than during 1981. However, conspicuous problems are the continued decline in the wheat growing area, the large ratio of late-sown to total area, and seedling condition prior to winter's onset not as good as in previous years in most places. Moreover, in north China, the continuous autumn and winter drought has been bad for summer grain production, and though seedling condition took a turn for the better recently, it still does not meet requirements for a bumper harvest. Right now is the time when the winter and spring seasons meet. It is an important time for growth and change in overwintering crops, and strict attention must be given to care of overwintering crops during this period to promote change in seedling conditions to lay a foundation for a bumper summer harvest.

How should good spring care be given? It is necessary to start with this spring's climatic characteristics and the seedling growth situation at the present time, adopting measures to the present time and local situations. Ever since last December, the climate has everywhere been rather warm. In north China the frozen soil horizon has been shallower than in former years, and greening up has tended to be early. It is necessary to give timely early care on the basis of different circumstances, to stabilize the sturdy seedlings that grew before the onset of winter, and to promote new tillering during the spring season to increase the wheat heading rate, to increase the number of grains, and to increase grain weight. For third category seedlings and late growing seedlings, it is particularly necessary to provide care with fertilizer and water so they resume growth and joint, making the wheat seedlings change to a higher grade. The protracted drought in north China poses a serious threat, and every possible means should be used to combat drought and preserve soil moisture through timely hoeing, raking and compacting of the soil. In addition fullest use should be made of all water conservancy facilities to expand the spring irrigated area. The continuous huge downpours of rain south of the Chang Jiang require prompt clearing of ditches and drainage to prevent water stagnation and waterlogging. Vigilance should also be increased against the possibility of a return of coldness in spring and against other diseases and insect pest catastrophes, preparations being made for prompt prevention and control.

A major link in doing a good job of spring care is to combine mass enthusiasm and scientific technique. Following institution of production responsibility systems, mass enthusiasm for wheatfield care is very high, but technical guidance must be improved to prevent blindness. There is need to use the strength of all kinds of technical promotion and technical service organization, and through various methods such as giving short training periods to teach techniques, to increase levels of scientific care. Departments concerned should promptly assure supply of the fuels, electric power, and other materials needed to guard against and combat disasters and to give spring care. Production teams should also increase organization. They should not simply allow individual families and households to act on their own, wasting manpower and time.

Now the "rainwater period" [around 19 February] has passed, and all jurisdictions should educate commune members to get over the old habit of a "mad January and an idle February" to concentrate needed work forces so that while devoting attention to preparing for spring farming, they do a good job of caring for crops to be harvested in summer to win a bumper harvest of summer grain and oil-bearing crops.

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CSO: 4007/282

PUBLICATION'S ROLE AS SCIENTIFIC KNOWLEDGE PURVEYOR UNDERSCORED

Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 1, 1982 p 1

[Article by the Editorial Department: "Willingly Be Green Leaves That Set Off Red Flowers"]

[Excerpts] The year 1982 has arrived. Accompanying the arrival of the new year is the emergence of a fine situation throughout the country. The line, programs, and policies of the 3d Plenary Session of the 11th Party Central Committee have seen success in every field, no place more than in rural villages.

Some comrades believe that a general "shift in focus" should also take place in NONGCUN KEXUE the emphasis changing from basic knowledge to promotion of applied technology, and lacking this it will become divorced from rural realities. Such a view is not unreasonable. Serious attention to and intensification of the general promotion of applied technology are indeed urgent matters in the spread of science to rural villages today. Very good evidence of this may be found in Shandong's promotion of "Lumian No 1" cotton, Henan's promotion of techniques with wheat that produce yields that are "high, consistent, and low in cost," and promotion of hybrid rice throughout the country's rice growing regions, all of which have won outstanding results. However, one should not come to the conclusion from this that "rural villages do not need basic scientific and technical knowledge." On the contrary, a look back at the development of China's agriculture over the past more than 30 years provides a very extensive lesson, namely that it has been lack of basic knowledge about agricultural production that has resulted in contravention of natural laws and economic laws, and has led to a series of blind leadership.

For example, because of a lack of understanding of the principles of the material cycle and of energy transformation, the idealistic slogan of "the land will produce whatever man has the courage to take," unexpectedly confused and poisoned people's minds and was popular for a time. The blind introduction of high yield varieties in the pursuit of multiple cropping indices without concern for sufficiency in water and fertilizer to support them, exists in many places and has led to disappointments and results which are the opposite of those desired.

In another example, because of the lack of understanding of the laws of ecological balance, in many places in China, farming, forestry, animal husbandry, and fisheries are practicing plunder. They make much use of, but give little nurture to the cultivated land, taking much and returning little, leading to a decline in soil fertility. Reckless cutting and denudation of forest resources, taking much but afforesting little has caused increasingly severe erosion. Overgrazing of grasslands, taking only but not replacing, has created degeneration in large areas of the grasslands, and in some places desertification has set in. Overfishing and indiscriminate fishing has led to increasing exhaustion of aquatic product resources. Such a plundering has destroyed the natural ecological balance and caused agricultural production to devolve into a vicious cycle that brings tragic consequences.

Consequently, our view is that rural villages need both applied technology and basic knowledge. Current vigorous efforts to intensify promotion of applied technology are extremely important, and spread of basic knowledge should not be neglected either. Large numbers of specialized periodicals of various kinds are already focusing on applied technology, NONGCUN KEXUE will serve as a publication oriented toward overall popularization of science in rural villages. It will continue to maintain an emphasis on the spread of basic knowledge, which is also necessary. In this new year, we should "willingly be green leaves that set off the red flowers," working together with the broad masses of readers and writers, the better to practice the five sentences [open the door of knowledge for readers; give advice regarding production; provide new material for learning; give guidance for readers' livelihood; and make contributions toward four modernizations in rural areas] put forward at the time that the publication changed its name, so that during this period of steady upsurge in the "craze for science" in rural villages, it will genuinely be able to make the most of the role that it should play.

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CSO: 4007/268

STATE SUPPORT, PEASANT INCOME RELATIONSHIP ANALYZED

Fuzhou FUJIAN RIBAO in Chinese 19 Feb 82 p 3

[Article by Gu Deqi [7357 1795 3823]: "Peasants' Income Increase and State Support"]

[Text] After 1976, and particularly since the party's Third Plenum, the party and the people's government, in order to mobilize the enthusiasm of rural communes and brigades and the peasants' production, have made appropriate readjustments in agricultural production relationships, universally put into effect an agricultural production system of responsibility, raised the procurement prices for agricultural and sideline products considerably, reduced agricultural taxes, liberalized all the various economic policies in effect in the countryside, promoted the development of production, and brought about a considerable increase in peasant incomes.

Over the Past Few Years the Income of Peasants Has Increased Rapidly

First of all, in each of the past 4 years the procurement prices of agricultural and sideline products have been raised. In our province in the 2 years 1978 and 1979 the procurement prices of 93 varieties of products were raised, including grains, edible oils, meat, aquatic products, dried and fresh fruit, and local sideline products, representing a 27.6 percent rise in the general level of prices. In 1980 the procurement prices of 27 varieties of products were raised, including cotton, jute, sun-cured tobacco, sugar cane, and lumber. In the first half of 1981 the procurement prices of six products were increased, including flue-cured tobacco, and in the second half of the year the procurement prices for lumber and bamboo were also raised. The state's raising of procurement prices for agricultural and sideline products by a comparatively big margin over the past 4 years has enabled peasants, beginning with 1982, to derive a yearly profit of over 560 million yuan.

Secondly, the price increases and negotiated prices for agricultural and sideline products that exceed the base procurement price can enable the income of peasants to be increased by approximately 100 million yuan each year. In 1980 peasants, through price increases and negotiated prices for agricultural and sideline products, increased their income by 75.79 million yuan, of which 17.46 million yuan represents price increases for state brands and 58.31 million yuan represents income from negotiated prices for the various agricultural and sideline products. According to the estimate of concerned departments, peasants' increased income from price increases and negotiated prices for 1981 is 143.81 million yuan.

Third, rural tax revenues have been reduced. Each year reduced revenues are reduced by up to over 30 million yuan, representing 16 million yuan in agricultural tax exemptions at tax-collection sites throughout the country, and over 14 million yuan in reduced industrial and commercial taxes at commune and brigade-run enterprises in the countryside.

Fourth, agricultural trade markets have been liberalized, enabling peasants to increase their income by from 200 to 300 million yuan each year. According to the estimate of concerned provincial departments, peasant income in 1980 from the sale of agricultural and sideline products at agricultural trade markets in cities and towns was over 244 million yuan, and that for 1981 was approximately 300 million yuan.

The Fostering and Support of Agriculture By the State and the Various Departments

In this period of the readjustment of our national economy, in order to build up our agricultural base as quickly as possible and speed up the development of agricultural production, the state has expended a great deal of effort to foster and support agriculture. The amount of capital our province uses for agriculture is between 300 and 400 million yuan a year, representing about 25 percent of total budgeted expenditures for a given year. In 1978, the amount reached over 384 million yuan; in 1979, it reached over 431 million yuan; in 1980; it was over 348 million yuan; and in 1981 it was around 360 million yuan. In addition. the proportion of the province's finances utilized each year for projects directly supporting agriculture such as farmland and hydraulic capital construction and all kinds of agricultural operating expenses, capital for developing the potential of and renovating enterprises, expenses for the simple farm construction, the costs for the three items of agriculture, science and technology, increased allotment of circulating capital, and expenses for educated youth to go to the countryside to work, is generally about 22 percent of total expenditures. In 1978, over 335 million yuan was spent on projects directly supporting agriculture; in 1979, over 375 million; and in 1980, over 328 million yuan. Aside from this, between 40 and 50 million yuan each year is allocated to support capital construction in agricultural and industry and other projects indirectly supporting agriculture.

According to incomplete statistics, the support given various branches of the national economy to agriculture is approximately 100 million yuan each year. Taking 1980 as an example, the province's department of finance, in addition to raising prices and alloting expenditures to directly support agriculture, also provided about 70 million yuan to cover all kinds of subsidies and losses of which the most important were 15 million yuan in state quota subsidies for chemical fertilizer, and 14 million yuan in phosphate fertilizer subsidies for special cooperative projects outside the province. Price quota subsidies and loss subsidies for agricultural machinery together totaled over 5.8 million yuan; pigskin and cowhide production procurement subsidies amounted to 13.6 million yuan; for the aquatic products industry, subsidies for the production of kelp glue and for goods and materials required by the fishing industry amounted to 8.9 million yuan; subsidies for losses in the agricultural, forest products, livestock, and fisheries markets amounted to 8.5 million yuan, and so forth and so on. The subsidies on the losses from firewood, cooking oil, plastic film, bamboo and lumber, as well as small- and medium-sized farm implements used in agriculture, as a result of the special pricing by the departments of commerce and supply and marketing amounted to over 25 million yuan. In addition, the price for electricity used domestically and for production in the countryside has been low, enabling communes and brigades, and peasants to benefit either directly or indirectly.

Several Points of Understanding

First of all, in developing the rural economy, we must rely constantly on the party's policies and scientific methods. At the same time, we must also do a good job of managing and utilizing all presently-existing agricultural capital, so as to bring its greatest economic effectiveness into play. Following the Third Plenum of the CCP Central Committee, the state used its greatest efforts to increase capital investment for agriculture, providing agriculture with immense support both financially and materially. Under the present circumstances of the state being in relative financial difficulties, hereafter it will not be possible, in any given year, to invest even more capital in agriculture; we can only do the best we can to do a good job of managing and utilizing the agricultural capital that already exists. At present the economic effectiveness of the capital funds invested in support of agriculture is still comparatively poor, and there is a lot of waste; for this reason, its potential is still very great.

Secondly, regarding the procurement prices of agricultural and sideline products we must adopt the guiding principles of basic stability and adjustment on an individual basis. Although, through many price adjustments, there has been an obvious reduction in price differentials for industrial and agricultural products, nevertheless some still exist. This problem will take a long time to solve if we base ourselves on the actual conditions in our country and our province, and if we move gradually in a manner that is consistent with our actual capabilities. The overall situation in price relations, affecting so many other aspects of life, is rather complex; the peasants' benefit must be considered; the benefit of city dwellers, and that of workers and staff must also be considered; and so must the benefit of our country. At present, our province's agricultural tax which, following the tax reductions, only represents less than 6 percent of the total agricultural output, has in each of the past 4 years increased peasant earnings by over 500 million yuan, while over this same period our national income has increased by only 700 million yuan. For this reason, on the basis of our country's present financial circumstances, over the next 3 to 5 years it will not be possible to raise the procurement prices of agricultural and sideline products again, and we must adopt instead the guiding principles of basic stability and adjustment on an individual basis. Increasing peasant income depends mainly on developing commodity production, improving its circulation, achieving more production and marketing. We simply cannot count on any more price raises or lowering the base price for procurement base.

Finally, we must emphasize that peasants should make more contributions to our country. "When the level of the big river sinks, the small streams will be dry." [Individual well-being depends on collective prosperity.] We are a socialist country, and only when the country as a whole is prosperous can the peasants' livelihood be further improved. At present, our country has a policy of enriching the people, the peasants in return should be patriotic in their actions. The peasants of our entire province must establish for themselves the concept that the nation comes first, conscientiously follow the state's plans, guarantee the fulfillment of the state's procurement and purchase tasks, and strive to make even greater contributions to the state.

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SOME TIPS ON PROPAGATION OF SEEDLINGS GIVEN

Fuzhou FUJIAN RIBAO in Chinese 23 Jan 82 p 1

[Article: "Agricultural Specialist Suggests Conscientious Attention to the Link Between Seedling Propagation and the 'Return of Spring Coldness' During Sowing Season This Year"]

[Text] Just before the [lunar] new year, the provincial Department of Agriculture convened an early rice seedling propagation symposium attended by specialists, scientists, and technicians concerned from the provincial Academy of Agricultural Sciences, from meteorological units, and from agriculture departments in Fuzhou Prefecture, who analyzed characteristics of sowing this spring and put forward very good suggestions about the propagation of seedlings for spring sowing.

The specialists felt there were several points about seedling propagation for spring sowing this year, compared with previous years that were deserving of serious attention. First was the poor weather. According to forecasts from meteorological units, climatic temperatures during spring sowing will likely be 1 or 2 degrees lower than in 1981. During the first 10 days, middle 10 days, and early part of the last 10 days of March, when everywhere most seedling planting is done, in most years, a "return of spring coldness" will likely occur twice, posing an extensive threat to the sowing of seeds and the growing of seedlings. Second, the seed quality is relatively poor this year. As a result of last year's severe "May cold" and the damage caused by rice blast disease, the quantity of fine variety seeds retained is everywhere inadequate. In addition, a large number of different places have exchanged seeds, and the purity of the varieties is inadequate. In some areas of rice blast disease, more than 10 percent of the seeds carry rice blast bacteria. Third, following the implementation in rural areas of various forms of production responsibility systems, countless households sow and grow seedlings in a decentralized way, and many peasant households do not understand or have not mastered well the techniques of propagation. The specialists suggested the following:

1. An intensification of leadership over spring sowing and seedling propagation work is genuinely needed. Sturdy seedlings are a crucial measure for increased paddy rice yields; this has historically been a weak

link in Fujian Province's paddy rice production, and all jurisdictions must give diligent attention to it.

2. The organization and management of seedling propagation must be taken in hand. They recommended that production teams select hands skilled in seedling propagation and organize specialized seedling propagation teams to carry out centralized propagation of seedlings of different varieties from fine variety seeds that peasant households turn over to them. Alternatively, neighboring households, acting under the principles of voluntary participation and mutual benefit, should go in for joint propagation of seedlings, or else old experienced peasants might serve in households specializing in seedling propagation, with the production team acting to organize them. In short, there should be an adaptation of general methods to local situations and there should be mass discussions, with various forms of responsibility systems adopted in order to achieve the goal of breeding sturdy seedlings. However, no matter the method used, matters must be taken firmly in hand and implemented about half a month before propagation of the seedlings.

3. Agricultural units and stations for the promotion of agricultural techniques in all counties and municipalities should enhance guidance of seedling propagation techniques. Right after the lunar new year, they should immediately organize forces centering on communes to operate training classes in the propagation of sturdy seedlings, and they should organize those skilled in seedling propagation to exchange experiences. During the period of seedling propagation, they should intensify traveling around to give technical guidance, emphasizing at the same time the timely sowing of seeds, and making sure that sowing is done when temperatures over a 10-day period average 12 degrees centigrade. There should be general promotion of the selection of choice seeds using salty muddy water, and the disinfecting of seeds by soaking them in "402" antibiotic solution. Damp seedling propagation and sparse sowing to propagate sturdy seedlings should be promoted.

4. All jurisdications should conscientiously inspect seeds for quantity and quality, and should diligently transfer seeds when an excess or a shortage is found.

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ERRANT IDEOLOGY BLAMED FOR VEGETABLE SHORTAGES

Fuzhou FUJIAN RIBAO in Chinese 22 Feb 82 p 1

[Article by commentator: "Suburbs Should Make Vegetable Production Paramount"]

[Text] Having vegetables to eat is a big thing in the life of the people. Back in 1957, Comrade Chen Yun pointed out; "The significance of the problem of supplying vegetables and other foodstuffs is no less than that of factory construction, and it must be placed in a position of equal importance with the building of factories." In recent years, both the CCP Central Committee and the State Council have on several occasions issued instructions requiring that all cities and industrial and mining areas solve vegetable supply problems.

Thanks to the importance attached to it by party and government leaders at all levels, vegetable production and supply work in Fujian Province has scored definite achievements in recent years. To take Fuzhou as an example, in 1981 each person averaged 9.6 liang of vegetables daily, which compares favorably with the situation in 35 of the large and medium-size cities of the country. In 1981, Chinese cabbage, which formerly could be supplied only on holidays, continued to be supplied over a 4-month period. Prices for vegetables were kept virtually stable, but the supply situation varied from place to place. In many cities and towns, as well as in state-run shops in industrial and mining areas, vegetable supplies decreased. The state-owned supplies were insufficient, so vegetable prices in farmers' markets shot up, and the masses complained a great deal. Furthermore, quantities of vegetables delivered to market were uneven--sometimes a lot; sometimes a little. Varieties were uninteresting, and problems with tough vegetables that had grown for too long were serious.

The vegetable shortage in cities is partly the result of natural disasters, but it is mostly attributable to a series of problems existing in vegetable production and supply which have not been fundamentally solved. A program making vegetable production paramount in the agriculture of the close-in suburbs has not been genuinely put into effect. In terms of the province as a whole, the following three problems are the major ones requiring solution in vegetable production. First is providing areas for vegetable fields. An insufficiently large area for growing vegetables is a rather conspicuous problem in current vegetable production. According to statistics from provincial units concerned, in seven cities (Fuzhou, Xiamen, Zhangzhou, Quanzhou, Sanming, Longyan, and Nanping), and five counties (Yongan, Shaowu, Putian, Ningde, and Jianyang), the vegetable-eating population has increased annually for the past several years, but the vegetable-growing areas has decreased annually. Except for Fuzhou, where vegetable fields average a bit more than 3 li per capita, in other cities and counties it is less than 3 li, and less than 2 li in some. In other counties and cities, the problem of insufficient vegetable fields exists universally. Land is scarce and outputs are neither high nor consistent, producing a supply shortage. There are numerous reasons why the vegetable-growing area has declined, the most important being the excessive amount of land taken for urban construction and for commune and brigade enterprises. Construction of commune members' homes has also used a portion. Every year for the past 3 years in Fuzhou, almost 1,000 mu of established vegetable fields (amounting to the output from 3,000 mu of new vegetable fields) have been taken over. In Siamen and Sanming, about 400 mu have been taken away annually. There is no way to figure how much vegetable land has been taken by commune and brigade enterprises and by commune members for the building of houses. Strict control over the requisitioning of land and prohibition of arbitrary occupation of vegetable fields have become the urgent task of the moment in order to guarantee vegetable field areas for vegetable production. Recently, the provincial government promulgated new regulations on the requisitioning of vegetable fields, and all jurisdictions should conscientiously implement them. In terms of "deciding production on the basis of needs, production being slightly greater than marketing," the vegetable-growing area is inadequate and should be augmented to supply the population. All municipalities and counties should also set up special bases to supply routine vegetable needs and holiday vegetable needs that are farily concentrated in their area of distribution, that produce consistently high yields, and that are permanent.

Second, a sufficient work force in the vegetable production frontlines has to be assured. Today in suburban vegetable-growing communes and brigades, the general tendency is toward emphasis on industrial sideline production, with vegetable production being slighted. Many communes and brigades put their labor force and funds to work on development of industrial sideline occupations, thereby creating a labor shortage on the vegetable production frontlines. When some commune and brigade cadres do not grow vegetables but take the lead in industrial sideline occupations, the production enthusiasm on the part of commune members for the growing of vegetables is particularly impaired. There are many reasons for this situation, but the major one is that during the past several years, party organizations in these places have slackened ideological and political work among the vegetable-growing peasants. Following the institution of vegetable production responsibility systems, in particular, some cadres abandoned leadership. Consequently, among some suburban cadres and commune members an erroneous mentality grew up of no concern for the country and interest only in making money. They went for whatever they could earn money from, eating grain supplied by the country and not taking responsibility for growing vegetables, in a trend toward the free allocation of the work force. Unless action is taken to put a resolute stop to this, vegetable production cannot be carried out well. All jurisdictions should devote major efforts to intensifying ideological and political work among vegetable-growing peasants, launch indoctrination in socialism and patriotism, and, simultaneous with doing a good ideological and political job, formulate a body of regulations to stabilize work forces for vegetable production, submit to state plans, and grow sufficient quantities of good vegetables.

Third is the need to bolster leadership over vegetable work. Vegetable production, like other sectors of agricultural production, is a process of material production in which natural reproduction and economic reproduction are closely combined. The vegetable problem is a complex, interlocking problem that has ramifications in many areas. Leaders must take it firmly and surely in hand. In its notification concerning the strengthening of vegetable production and management work in large and medium-size cities and industrial and mining areas, the State Council also noted: "It will not do to devote attention to urban vegetable-production work for a short time only, nor will it do to relax attention for a time and tighten attention for a time." Today, numerous problems exist in vegetable work. Leaders everywhere must arouse their spirit and take action with full knowledge of the difficulties, genuinely strengthen leadership, and solve problems. We believe that only if leaders at all levels truly handle as a major problem the solving of the problem of vegetables for urban people to eat can the vegetable supply situation in the cities and the industrial and mining areas of Fujian Province be definitely improved.

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MEASURES TO BOOST SPRING VEGETABLE PRODUCTION DETAILED

Fuzhou FUJIAN RIBAO in Chinese 22 Feb 82 p 1

[Article by Correspondent Xie Zuyi [6200 4371 5030]: "Exert Efforts To Make Sure Urban Residents Have Vegetables To Eat During Scarce Season; Fuzhou Municipality Convenes Vegetable Work Conference, Which Proposes Eight Measures"]

[Text] How can a sufficient quantity of vegetables of many varieties be assured for the people of Fuzhou during the spring of scarcity season? The work conference recently convened by the Fuzhou Municipal CCP Committee and municipal government proposed eight measures to be taken.

Difficulty in getting vegetables to eat during the season of spring scarcity is an old and difficulty problem. Since last October, the municipal CCP committee and municipal government have held several meetings to arrange for this year's vegetable production and to solve spring season scarcity problems. All vegetable-growing communes and brigades have also done much work. Throughout the city, more than 4,000 mu of cabbages are being grown to meet needs during the season of spring scarcities--something that has not happened for a good number of years. However, a recent check shows that because some work was not looked after as it should have been, and particularly because of the heavy migration to other places by work forces from the frontlines of vegetable production, during January between 500 and 600 mu fewer short-term vegetables were grown to get through the spring scarcity period, and now the management of vegetables needed to get through the spring scarcity is in some cases poor. If matters are not properly attended to, a shortage of vegetables will occur in markets from mid-March to mid-May.

The meeting conducted discussions of this situation. Leadership comrades attending the meeting from areas around the city, from suburbs, and from Minhou County, leadership comrades from 12 communes charged with responsibility in units under direct jurisdiction of the city expressed views. On the basis of conference discussions, the municipal CCP committee and the municipal government proposed eight measures to solve the problem of scarcities in spring production.

First, this year's vegetable production plans must be strictly carried out to make sure that the area planted to vegetables will not be a single mu short. Acting on the principle of "setting production according to needs, production being slightly greater than marketing," the municipal government handed down to surrounding areas, suburbs, and Minhou Country the areas to be planted in vegetables for the year in order to assure the supply to markets of 39 varieties totaling 2.2 million dan for the year. In order to ensure a smooth flow of vegetables to markets to get through the period of spring scarcity, the municipal government issued separate quotas to communes and brigades in each area and county for the daily arrival of 6,000 dan in markets. For the planting quotas not fulfilled for January, the municipality required supplemental plantings of sufficient kinds and quantities, as time permits.

Second, good care must be taken of available vegetables, particularly of the more than 4,000 mu of cabbages needed to get through the period of spring scarcity. The city decided to allocate an additional 100 tons of chemical fertilizer to communes and brigades to increase their fertilization, while at the same time doing a good job of getting urban nightsoil and garbage into the countryside.

Third, persevere in a program of "vegetables first, in the agricultural production of close-in suburban areas," with work forces that have gone elsewhere returning to grow vegetables. The municipal government required that for a short period of time, one worker per mu must be assured, and that one worker per 1.5 mu must be assured over the long run. Insufficiencies should be made up by transfers from industrial sideline occupations. If workers who left the growing of vegetables to go elsewhere do not return to the fields within 3 month's time, their grain rations will be cut off and they will have to eat grain bought at negotiated prices. While diligently doing a thorough, detailed ideological job, all communes and brigades are to formulate, on the basis of urban requirements, specific regulations for stabilizing the labor force. Commune and brigade cadres and party members should take the lead in growing vegetables.

Fourth, the Municipal Vegetable and Soysauce Company is to give strict attention to the signing of supply and marketing contracts with production units that reflect plans, including time for deliveries to market, quantities, quality, varieties, and prices. Industrial and commercial management organizations are to strictly supervise the carrying out of contracts by both producers and marketers, and those who do not carry out their contracts are to suffer economic penalities.

Fifth, in addition to the 1.15 million yuan formerly allocated by the municipal government to pay salaries and to help with the construction of old vegetable-growing bases, it has been decided to allocate an additional 1.15 million to help communes and brigades enlarge new vegetable bases and to install spray irrigation equipment in order to upgrade their ability to resist drought and achieve consistent, high yields.

Sixth, do a good job of distribution. The Municipal Vegetable and Soysauce Company is being required during the period of spring scarcity to do everything possible to assure the daily delivery of 300 dan of beansprouts and 10,000 jin of beaneurd to markets. There are also plans to buy 30,000 dan of vegetables from other places, and quantities of spring bamboo shoots, broad beans, and peas.

Seventh, intensify market management. During the period of spring scarcity, municipal industrial and commercial departments should intensify their patrols and checks in order to assure that vegetables are not sent out of the area. All communes and brigades should assure that vegetables grown under the plan do not find their way into the free markets. Violators are to pay a fivefold fine for each offense. Vegetable shops should not sell vegetables to profiteers or willfully transport them elsewhere for sale. Not only will violators have all such vegetables confiscated, but the head of the shop or the persons in charge will be fined 100 yuan.

Eighth, improve the organization of leadership. The municipal CCP committee and municipal government are requiring cadres at all levels to go into the frontlines of production to strengthen leadership over vegetable work. All cadres should exercise their responsibilities, and all units concerned should launch competitions to see who can make the greatest contribution to solving the problems of spring scarcity. Units or personnel that botch up or place obstacles in the way of vegetable production or supplies are to be investigated, and blame will be fixed.

Delegates to the conference unanimously praised and supported the municipal CCP committee's and municipal government's eight measures and indicated their intention to assure implementation of these measures and to study ways of solving scarcities in the fall. Surrounding areas are shouldering 80 percent of the production tasks for the city, and the head of the area, Jin Nengchou [6855 5174 4693] expressed, on behalf of cadres and commune members throughout the area, the intention to fulfill resolutely the task handed down by the municipal CCP committee and municipal government, and to make every effort to solve the spring scarcity problem in order to satisfy the needs of the people throughout the city for vegetables to eat.

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FARM MACHINERY CONTRACT RESPONSIBILITIES OUTLINED

Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 1, 1982 p 5

[Article by Tao Fuxiang [7118 4395 4382] and Zhao Wenhai [6392 2429 3189], Farm Machinery Bureau, Tianshui Prefecture, Gansu Province: "Perfection of the Farm Machinery Contracting Responsibility System"]

[Text] In the process of establishing a responsibility system, for the contracting of farm machinery, inasmuch as neither party to the contracts has a knowledge of contracting, and since many management cadres lack a clear understanding of the new changes that have taken place in farm machinery work during the current readjustment period, and have not sufficiently studied the new circumstances and new problems, the following problems exist in varying degrees:

1. Contract duties lack a basis. Amounts of work are set inequitably, and there is a great gap between the high and low [figures] in contracted sums of money--the sums mostly being low--which enrich the individual and deplete the collective.

2. At the time of contracting, because of the use of unreasonable methods, such as the drawing of lots and abuses of authority by production team cadres, unlicensed operators (or new operators) are fairly common, and in some cases contracting is done with operators from other production teams or other communes.

3. More frequently than not, no long-range plans are made with regard to tractor drivers. Consequently, when time is about to run out, tractors are overworked, and a serious problem of changes in personnel to operate farm machinery exists.

4. Financial management is in quite a mess. Receipts and disbursements are not recorded, and receipts and bills are not kept. There are no accounts that can be checked to determine whether administration is good or bad, and it is impossible to carry out statistical work.

5. Because contract agreements have not been signed, are not in good order, or are not carried out strictly, the following has happened: Farm work is

not done, but rather people prefer to go outside their production team to engage in sideline occupations. Monies are not turned over to the collectives on time. After accidents involving machinery take place, there are mutual denials and failure to pay for economic losses. Operators "understand bonuses but not deductions," and there have been cases in which contracts have been torn up when earnings were not good or machinery was damaged. Seeing that operators have good earnings, production team cadres raise contract prices at whim. When major repairs are required, the collective does not want to take responsibility for major repair expenses.

In order to improve the farm machinery contracting responsibility system so as to make farm machinery better serve agricultural production and the masses livelihood, we believe that in the process of promoting farm machinery contracting responsibility systems, contract agreements have to be signed, and at the time of signing such agreements, consideration and attention should be given to the following "10 fixeds":

1. Fixed condition of vehicles: Units [should be] formed to appraise the condition of vehicles. These units [should be] composed of personnel in charge of machinery maintenance at commune farm machinery management stations, old operators, and production team cadres for the purpose of classifying machinery into three categories, on the basis of mechanical condition, for use in setting amounts of money for the contracting.

Category I vehicles: Includes newly purchased vehicles or vehicles that have undergone major overhaul, as well as vehicles in very good mechanical condition even though they have not undergone major overhaul (those that have "none of the three leaks," have "the four cleans," and have "the five goods.") Generally such vehicles are those that have been in service from 1 to 4 years and whose tires have 80 percent or more of their tread.

Category 2 vehicles: Includes vehicles that have been in service for 5-7 years; though they have undergone major overhaul, their tires have not been replaced or else have more than 60 percent of their tread remaining. Also included are those vehicles that, though they have been in service for 8 years, have had major parts and tires replaced (or are 80 percent new), and their mechanical condition is good.

Category 3 vehicles: Includes vehicles that have been in use for more than 8 years and which, though they have undergone major overhaul, have not had their tires replaced. Also includes vehicles whose parts are all in comparatively normal working condition, despite lack of major overhaul, and whose tires are better than 60 percent new.

Vehicles below category 3 require repairs before they can be contracted out. Those vehicles that are too costly to put into condition or that cannot be put into condition should be taken out of service or scrapped. Processing machinery used in the processing of agricultural sideline products should also be categorized according to their mechanical condition.

2. Fixed duties (amount of work)

(1) On the basis of the average gross income during the past 2 or 3 years, figured together with the local amount of income required to live, and depending on the mechanical condition of the machines, an equitable annual income from them should be set. Everything else being equal, a commensurately higher amount of work should be set for those machines that are in good mechanical condition.

(2) After experiments have been conducted, or on the basis of vehicle performance over the past several years, an overall analysis should be made of gasoline consumption, and a relatively equitable base figure should be set for gasoline consumption per standard mu (0.7 to 0.8 kilograms is about right), this base figure being used to figure the amount of work done by each category of machine each month or each quarter (or year).

3. Fixed percentage deduction: Machine operators are to be responsible for fuel expenses, day-to-day maintenance expenses, and wages, and collectives should deduct for major overhaul expenses, depreciation, public accumulations, and management expenses. Portions withheld by collectives should be applied as special funds to be used to help replace machines. Withholdings should be made according to the category of vehicle condition: For category 1 vehicles, withholdings may be 40 percent of gross earnings or cost per mu (12 percent for major overhaul, 12 percent for depreciation, and 16 percent for accumulation). For category 2 vehicles, 35 percent may be withheld (12 percent for major overhaul, 10 percent for depreciation, and 13 percent for accumulation). For category 3 vehicles, 30 percent may be withheld (10 percent each for major overhaul, depreciation, and accumulation).

4. Fixed operators:

(1) Only those operators who have undergone training and are licensed may be hired; unlicensed people may not be hired.

(2) Unlicensed personnel who have already been hired to operate machines must be tested within a limited period of time, the qualified being issued licenses and the unqualified unquestionably taken off [the machines].

(3) Priority should be given to the hiring of qualified operators from within one's own commune or brigade.

(4) Operators of machinery used in processing agricultural sideline products, as well as operators of diesel engines must also be trained and licensed under universally applicable appraisal criteria.

5. Fixed amount of farmland work. On the basis of the area that can be cultivated by machinery or the area that the masses want cultivated by machinery (including the grinding of grain, the hauling of manure, and similar farm work) following the fixing of output quotas on a household basis, and on the basis of the number of tractors ordinarily operating, horsepower should be apportioned to assure that priority is given to

agriculture. Standard fees for cultivation, using a gasoline-consumption figure of 0.8 kilogram per mu, would be 1 yuan per mu. If the gasoline-consumption figure was 1.6 kg, the fee would be 2 yuan, etc.

6. Fixed repair fees. Day-to-day maintenance fees are the responsibility of the operator, and responsibility for major overhauls (consideration given to tire replacement as well) are the responsibility of collectives, however stipulated.

7. Fixed safe production. Operators working under contract should strictly follow maintenance regulations, traffic rules, and operating procedures. When accidents occur, damage of under 100 yuan is the responsibility of the operator; damage of more than 100 yuan will be adjudicated by supervisory units (or public security units).

8. Fixed statistical reports: Contract operators must conscientiously keep a daily diary in which they record accounts, and promptly each month they must provide a factual report and figures to commune farm machinery management stations. Those who fail to make reports should be appropriately punished.

9. Fixed dates for handing over funds. Each month or each quarter, contract operators must turn over to collectives portions to be withheld from annual contract sums; they may not make one final settlement at year's end. Those who delay making payment or refuse to pay should be punished according to the seriousness of the circumstances.

10. Fixed handover. Files on mechanical condition of all farm machinery should gradually be built up. At the time of contracting, both parties should follow a handover procedure, including conscientiously filling out a record of handover and a contract agreement. At the end of the contract period, mechanical condition of machines and all implements that go with them should be complete. Except for ordinary wear and tear, all machine parts that have been damaged are the responsibility of contract operators to replace or repair, and tools that have been lost must be replaced.

The spirit of the foregoing 10 articles must be considered and clearly written down (or printed) as a part of the contract agreements. Supervisory and authenticating organizations may be either commune farm machinery management stations or production brigade management teams. Once an agreement has been made, it has the force of law, and no one may change or destroy it in an unauthorized or willful manner. All who destroy agreements shall be punished severely; required economic punishments are to be discussed by the masses.

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BRIEFS

COMMUNE, BRIGADE ENTERPRISES--Commune and brigade enterprises in Guangdong Province have embarked on the work of processing materials supplied by foreign firms, assembling parts supplied by foreign firms, manufacturing goods as per sample supplied by foreign firms, on compensation trade, on cultivation and breeding for foreign firms and on cooperative management with foreign firms. Last year, they signed some 2,500 contracts of various kinds with foreign firms and earned D58 million of processing charges. The processing charges earned by commune and brigade enterprises in Foshan Prefecture in the first quarter of this year were 46 percent more than in the corresponding period of last year. [HK060625 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 29 Apr 82]

SUGAR REFINING--The sugarcane refining season has ended. Seven large sugar refineries at the Pearl River Delta in Guangdong Province are making use of this period of the suspension of refining to process imported unprocessed sugar for inland provinces and municipalities and to process unprocessed sugar supplied by foreign firms in order to earn processing charges. At present, they have been entrusted the task of processing 280,000 tons of unprocessed sugar. The province will fulfill its quota for processing 300,000 tons of unprocessed sugar for this year. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 29 Apr 82 HK]

CSO: 4007/407

BACKGROUND TO DEVELOPMENT OF TWO NEW CORN HYBRIDS GIVEN

Shijiazhuang HEBEI RIBAO in Chinese 21 Feb 82 p 3

[Article by Yi Lanfang [0122 5695 5364], agricultural technician, Beiyi Production Brigade, Fucheng County: "Breeding of Fine Varieties To Serve Agricultural Production"]

[Text] I have been a production brigade agricultural technician since 1966, and during the past 16 years I have introduced and test-planted a total of 43 parent pairs of hybrid corn and personally produced more than 160 hybrid corn combinations. As a result of the production of these combinations, experiments, and evaluations, four new bybrid combinations worthy of being promoted have been preliminarily bred, and two double-hybrid corn varieties of these have been extended to production. One of these used Zhengdan No 2 as the female parent and Hengdan No 7 as the male parent to produce a double-hybrid variety, which we named "Yishuang No 1." This variety has white kernels and and intermediate ripening. It shows fairly strong adaptability and resistance to disease. When sown in spring, it has a growing season of 110 days; when sown in summer, the growing season is about 100 days, making it suitable for intercropping in wheatfields. It has been currently extended to cultivation on more than 20,000 mu throughout the county. The second one used Tangdan No 14 as the female parent and Luyuandan No 4 as the male parent to produce a double-hybrid variety which we named "Yishuang No 2." This variety has short stems and ripens early. It has yellowish-white kernels and strong adaptability. Its growing season is from 85 to 90 days, making it suitable for sowing as a repeat corn crop. Last year it was extended to cultivation over more than 10,000 mu in the province. Under present circumstances, these two varieties will likely be further extended to cultivation, mainly for the following reasons:

1. Consistent and high yields. Because several single-hybrid varieties, all of which were varieties that had been extended to cultivation in fields, were used to produce the double-hybrid varieties, they were able to produce high and consistent yields. Results of comparisons made at 4 sites during the past 2 years showed maximum yields of 801 jin per mu and minimum yields of 608 jin per mu. At 3 sites, the yields were greater than from Zhengdan No 2 and Tangdan No 14. The degree of increase in the yields ranged from 1.1 percent to 14.6 percent.

2. High seed-production output. Low seed output from single-hybrid varieties of corn has been a universal problem in seed production work, but by using the double-hybrid variety method, the seed production process becomes an increased yield process. Consequently, it has effectively solved the problem of an overly large seed-production area and low seed-production output.

3. Good quality. Hyalin content of the seeds is high, and the masses report that it is wonderful for making porridge or for making dry grain.

4. Low seed cost, so it is welcomed by users. Output is low in seed production from single-hybrid varieties of corn, and costs are high. According to national price standards, 1 jin of seeds should exchange for between 2 and 3 jin of grain at from 1.30 to 0.40 yuan. Double-hybrid-variety seed production is high and costs are low, so generally 2 jin of grain are exchangeable for 1 jin of seeds, plus some slight subsidy.

What is the best way to produce seed corn? As a result of more than 10 years of experience, I have gained an understanding of the following several points:

First is the growing of seedlings in coldframes for added generation reproduction of parent pairs of corn-producing seeds, so as to shorten the breeding cycle. The cycle for agricultural production is fairly long. In the conventional breeding of corn, it takes 3 years from the introduction of inbred lines into reproduction until the production of hybrid seeds usable in production. If one wants to shorten the seed-production cycle, it is necessary to practice added generation reproduction. By so-called added generation reproduction is meant the use of scientific methods to proceed from the growing of one corn crop a year to realize two corn crops in the same year. To get added generation reproduction, the method formerly used was to go south to Hainan Island to do the breeding. During recent years, the method of using large plastic enclosures for reproduction has been developed. But the investment required for these methods is too great. We proceeded from the realities of our own situation to use the simple form of coldframes for progagation of seedlings in the early springtime, and we also instituted added generation reproduction of corn hybrid parent pairs. This has meant the propagation of corn seedlings during later February, with maturation occurring in either late June or early July; seeds from the harvest are used to plant a second crop of corn. This method, though simple, has expanded the corn reproduction coefficient and shortened the seed production cycle.

Second is the direction sowing of individual seeds for vastly increased reproduction. In order to do a good job of corn breeding, I asked for help from research units everywhere and was able to bring in more than 40 different kinds of hybrid parent materials. Quantities of seeds brought in ranged from as few as several kernels to as many as several tens of jin. I sowed them individually in holes for vastly increased reproduction, with the result that the seeds from elsewhere quickly put out roots in my soil.

Third is [the technique of] reproduction in bags to improve the purity of the seeds. Every year we carried out self-seeding by bag pollination on more than 600 individual plants of between wp and 30 corn varieties in order to maintain the improved variety characteristics and purity of hybrid parent pairs. Appraisals conducted 6 years after the introduction of the fine varieties shows purity still at 100 percent. Hybrids thus produced have strong hybrid heterosis and high quality.

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CSO: 4007/279

TIPS ON SPRING CARE OF WINTER WHEAT IN DROUGHT CONDITIONS

Shijiazhuang HEBEI RIBAO inChinese 21 Feb 82 p 1

[Article: "Scientific Care of Wheat for a Bumper Summer Crop; Deputy Director of Provincial Department of Agriculture and Agronomist Gong Bangduo [7895 6721 6995] Express Views on This Spring's Wheat Care Issue"]

[Text] Recently, deputy director of the provincial Department of Agriculture, agronomist Gong Bangduo, expressed the views given below about how to take good care of wheat this spring in order to win a bumper summer harvest.

This year the wheat seedling situation in Hebei Province was poor before the arrival of freezing weather; there was good overwintering, and there was a good greening up in the spring. Specifically, because of the drought and low temperatures last fall, the reduced area sown, and the late sowing, there are a lot of third-grade wheat seedlings and little tillering. This is very disadvantageous for winning a bumper wheat harvest. Following the onset of winter, however, the situation took a turn for the better. First of all, this year's winter was warm and the climate favorable. So far there has been no killing freeze of seedlings. Second, care given during overwintering was good. The province's winter irrigation area consists of more than 20 million mu--a 13 percent increase over 1981--and this year the area irrigated was greater than in recent years. Third, except for Tangshan Prefecture, the wheatfields in most places remained substantially green throughout the winter, and in many irrigated places tillering increased during winter. Fourth, the frozen horizon of the soil was between 2 and 5 cun shallower than in most years. It is anticipated that spring will break the winter drought, and that it will not be necessary to replace many wheat seedlings. The slight consumption of soil fertility will help an early and a rapid greening up, the promotion of tillering, and an increase in the number of spikes. As long as care is increased, there is still hope of winning a bumper harvest.

Spring care of the wheat this year will require making sure that plant colonies are small and that there are a lot of seedlings late in the season. With regard to the major problem of dry weather, the focus will have to be on "two increases and two protections"; i.e., increases in tillering and in heading, and protection against spring freeze and spring drought. Advantage should be taken of the continued greeness of this year's wheat during overwintering, and of the early greening up, to initiate action early, get to work early, and care for the wheat early in order to promote its growth--taking into account differences in the condition of seedlings and the soil moisture conditions to tailor and adapt general methods to local situations in order to give attention to the following crucial measures:

First, there is a need to combat drought so as to preserve the moisture of the soil, and to guard against freezing to protect the seedlings. The drought situation still continues, and according to measurements taken at various places, the water content of the cultivated horizon of dryland wheat soil has fallen to an overall 5-10 percent. For wetlands wheatfields that were not irrigated during the winter, it has declined to 8-15 percent. For fields where no followup care was given following irrigation, the soil has hardened and cracked, and the loss of soil moisture is serious. Some 13 million mu of the province lack soil moisture. In addition, the winter is not yet over, and the return of spring cold could still occur. The wheat seedlings are still in danger of being killed, and there positively can be no lowering of the guard or carelessness about this. On the basis of experiences in various areas, measures to combat drought and guard against freezing in early spring consist mainly of the adaptation to local areas of the general methods of rolling, raking, and hoeing. Now is the time to take advantage of the icy conditions to act quickly. Depending on different circumstances, rolling primarily should be done on clay soils, on hardened soils that have cracked, and on wheatfields where the underlying soil moisture is good but the surface soil moisture is not good. For fields in which soil mositure conditions are good and for highly alkaline fields, hoeing should be primary. In addition to the hoeing, raking, and rolling of the wheat, as the weather gradually warms up, will clean away the soil around the seedlings in those wheatfields where seeds were planted too deeply or which were covered for overwintering. Where seeding was too shallow, the soil should be mounded up around the roots to prevent freezing and to protect the seedlings.

Second, localities should adapt general methods to their own situations, watering to help the greening of the seedlings. Watering to bring greening is very much dependent on proper technique, and the lessons of years of experience are numerous. Therefore, it is definitely necessary to emphasize scientific [methods]. On the basis of experiences in various places, the three looks, three earlys, and three lates should be taken in hand. By this is meant: look at soil moisture conditions, provide early watering where the soil moisture condition is poor, and water later where the soil moisture condition is fairly good. In view of this year's drought watering of the fields should begin early. Where there is a serious soil moisture deficiency (water content of the soil lower than 10 percent), or where the frozen horizon is very slight, now is the time to water with "lifesaving water." For wheatfields where soil moisture conditions are generally poor (water content of less than 17 percent for clay soils, less than 15 percent for a mixture of clay and sandy soil, and less than 13 percent for sandy soil) and where the frozen layer has melted, watering may be done. Look at seedling conditions: Generally speaking, early watering should be given to first- and second-category seedlings, and later watering given to late and weak seedlings. Look at conditions: In places where the ability to fight drought is not strong or where there is a long watering cycle, action should be taken early and the initiative seized so that most wheatfields will be watered within a proper period of time. The forementioned three points should be organically combined.

Third is a need for heavy fertilization for greening up. Except for individual high-yield fields, the number of plant colonies in most fields is insufficient this year, making a top dressing of fertilizer for greening up particularly important. Emphasis should generally be placed on fertilization that uses a combination of manure and water, and attention should be given to a combination of nitrogenous and phosphate fertilizers. Applying fertilizer before all the ice has melted should be done deeply, and under conditions of sufficient soil moisture, in order to prevent blind and wasteful fertilization.

Fourth, good care should be given to late and weak seedlings. This year there is a large area of weak and late seedlings, and special attention should be given to scientific care. Generally, roots are poorly developed in fields having late and weak seedlings, so early watering can easily result in chilling of the ground and no emergence of seedlings, or to the growth of seedlings that remain small even when they are mature, frequently bringing about just the opposite of the desired affect. For these fields, mostly the hoeing, raking, and rolling of the wheat should be done in early spring to increase warmth and preserve soil moisture, awaiting the growth of new roots before watering or fertilizing.

The key to good care of the wheat is the strengthening of leadership. Right now the wheat is steadily greening up, so it is suggested that all levels of CCP committees and government devote earnest attention to these tasks. Agricultural units at all levels should rapidly organize scientific and technical personnel to launch a campaign of two checks: check seedlings conditions, and check soil moisture conditions--adapting general methods to specific locales to propose measure for caring for the wheat in different kinds of areas, and acting as staff officers for the leaders.

In many places, systems of responsibility for wheatfield care are not in very good shape, and in some places they have not been established at all. Because there is no responsibility system, some pump wells have not yet been fully utilized. This is extremely detrimental to good wheat care. Therefore, while improving production responsibility systems, all jurisdictions should rapidly set up and perfect wheat care responsibility systems. They should do a particularly good job of various forms of specialized contracting for pump wells, and they should both arouse the enthusiasm of commune members for production and make the most of the superiority of collective production.

Attention should be devoted to watering the fields and to those wheatfields that produce intermediate yields. During this year's drought, full use should be made of irrigated wheatfields. The whole province should emphasize attention to the 20 million mu for which irrigation can be guaranteed, giving particular attention to the wheatfields among them that produce intermediate yields. Generally speaking, these fields should be watered three or four times or more, and fields that produce intermediate yields should be given proper attention for fertilization as well, so that yields ranging from 350 to 400 jin per mu will be possible. For wheatfields where water-conservancy conditions are poor, and for dryland wheatfields, the masses should be aroused to sink "happy old man" wells, combine the flow of many wells, and repair leaks in ditches, using every possible means to expand the irrigated area in an effort to harvest a little bit more.

Inform the many households of techniques for increasing yields. Following the institution of responsibility systems, the broad masses of peasants have urgently demanded science and technology. All levels of agricultural-research and technology-promotion units should seize the opportunity to rapidly organize large groups of scientific and technical personnel to give publicity to technology, to print and disseminate technical materials, to set up technical information stations, to test-run contract systems linking technology to output, and to make full use of various forms such as newspapers, broadcasts, and blackboard reports for the vigorous teaching of wheat technology.

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CSO: 4007/279

GREATER DIVERSIFICATION OF CROPS EXPLAINED

Shijiazhuang HEBEI RIBAO in Chinese 9 Feb 82 p 1

[Article by Wang Guoqiang [3769 0948 1730]: "Ba County Readjusts Structure of Agriculture and Expands Economic Diversification as Result of Application of Agricultural Resources Survey and Agricultural Zoning"]

[Text] Ba County has applied results of agricultural resources survey and agricultural zoning to readjustment of the structure of agricultural production and to give scientific guidance to agricultural production to gain distinct benefits.

Ba County began a survey of agricultural resources and work on agricultural zoning in early 1980. As a result of the resources survey, the county was able to summarize its advantages and disadvantages in agricultural production and put forward more than 80 sensible suggestions for agricultural production. The County CCP Committee and the County People's Government used results of the resources survey to make the most of strengths and downplay weaknesses for readjustment of the structure of the agricultural economy and expansion of the ratio of economic diversification. While assuring grain production, it set a program of "longterm attention to forestry, intense attention to reeds, and attention to melons and vegetables for current year income." In 1981 the county grew 12,000 mu of Chinese cabbage alone, selling 27 million jin of it in Beijing and Tianjin for earnings of 1.8 million yuan. In 1981 county earnings from vegetables alone were 9 million yuan. Economic diversification in the county realized earnings of 31 million yuan in 1981, a 51 percent increase over 1979. They also made use of proximity to Tianjin and Beijing, and turned to advantage the county's more than 3,000 skilled craftsmen in vigorous development of commune and brigade industrial sideline occupations. Gross output value for all of 1981 reached more than 88 million yuan, a 10 percent increase over the previous year and a 52 percent increase over 1979. The plaiting of mats in the county's reed growing area last year earned the county 6 million yuan.

The county used results of its resources survey to restructure the farming system and readjust the ratios of summer and fall crops. Looked at in terms of quantity of heat, water resources, and soil fertility, this county has more heat than it needs for "one crop a year," and insufficient heat for "two crops a year," but for "three crops every two years," a multiple cropping index of 145 percent can be handled. On the basis of this data, Ba County began in 1980 to gradually cut back its wheatfield area. By 1981, the wheat growing area in the county had been reduced from the former

490,000 mu to 400,000 mu. Inasmuch as the county's light, heat and water conditions were suited rather well to the growing of spring corn, the spring corn acreage was expanded, with an additional more than 30,000 mu grown in 1981. This changed a situation of many years standing whereby grain production was increased in summer and decreased in autumn. In 1980 gross output of autumn grain increased by 74 percent over the previous year, with gross output of grain for the year showing an increase of more than 20 million jin over the previous year. In 1981, in a situation of severe drought, grain output still totaled 270 million jin, or the same as the year before.

Corresponding readjustments were also made in crop patterns on the basis of the resources survey. Ba County has 11 soil layers and 36 different kinds of soil, but formerly grain was invariably grown and resources were not used well. The county has more than 240,000 mu of sandy soil, which is rather infertile and porous to water and fertilizer. It is suitable for the growing of sweet potatoes and peanuts. On the basis of agricultural zoning, in 1981 the county readjusted the ratio of grain crops, expanded by 19,000 mu the growing of oil-bearing crops, and expanded the growing of melons and vegetables. As a result of this readjustment, advantages were preliminarily brought into play and economic benefits increased. Simultaneously with development of economic diversification, they worked hard at intensive growing of grain to raise per unit yields and maintain total output. In 1981, despite the growing of 50,000 mu less wheat in the county, total output remained what it had been in 1980, and total grain output for the county increased for two consecutive years as compared with output before readjustment.

Application of survey results to water conservancy construction changed the former emphasis on storage and slighting of drainage, and the emphasis on water in deep layers of the earth while slighting water in shallow layers. A combination of deep wells and medium-shallow wells were sunk, and pump well construction was combined with deep ditch waterway networks. In 1981, the county sank a total of 547 wells, 524 of which were medium-shallow wells. It also sank more than 6,000 bricked-up wells and earth wells, and dug more than 300 waterways. The county has also put into operation 551 spray irrigation devices to play a role in the struggle against drought. Some communes and brigades have also used the soil survey results to change the emphasis on ammonia while slighting phosphate fertilizer for scientific fertilization.

Postscript

Good agricultural resources surveys and agricultural zoning hold major significance for development of agricultural production. For a long time, as a result of the influence of "leftism," many places have not considered local peculiarities in guiding agricultural production. Regardless of the natural environment or climatic characteristics, they followed the same models, being subjectively one-sided, and giving blind guidance, thereby causing much hardship for the peasants and severe losses for the country. This lesson is a serious one.

In order to do a good job of agricultural production in an area, it is necessary to understand the local natural resources as well as historical, technical and social conditions, taking action on the basis of these realities and in accordance with natural laws and economic laws. Consequently, all jurisdictions must strive to make good surveys of natural resources for use in agriculture and do good zoning work, applying the results as quickly as possible to actual production, using the minimum amount of investment of funds to derive the maximum economic benefits.

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CSO: 4007/244

CROP PATTERNS CONSISTENT WITH CYCLICAL CLIMATIC CHARACTERISTICS PROPOSED

Shijiazhuang HEBFI RIBAO in Chinese 11 Feb 82 p 2

[Article by Zhu Zhijian [4281 1807 0313], assistant engineer, Provincial Meteorological Bureau: "A Look at Agricultural Crop Patterns in Terms of Hebei Province's Drought and Waterlogging"]

[Text] In Hebei Province, drought and waterlogging disasters are rather serious, some areas having them virtually every year. The basic conditions producing drought and waterlogging are the effects of monsoon winds, great changes in the rate of precipitation, and uneven distribution of rainy seasons. Abnormal changes in atmospheric circulation are major factors producing great drought or great waterlogging. Destruction of ground cover on Taihang Mountain is also an element in the frequency of drought and waterlogging disasters.

Drought and waterlogging disasters in Hebei Province have four characteristics. One is their continuousness, i.e., continuous drought or continuous waterlogging. In Luancheng County, for example, in a period of 505 years waterlogging 2 years in a row occurred 40 times, and 3 years in a row 19 times. The longest consecutive period of waterlogging was 7 years. Drought for 2 years in a row occurred 39 times, and 3 years in a row 17 times, the longest drought lasting 7 years. Looked at in terms of the province as a whole, both the four particularly severe droughts that occurred between 1470 and 1840 and the two particularly severe droughts that occurred between 1840 and 1949 lasted from two to four years. Second is the alternation, i.e., the alternation of drought, waterlogging and ordinary years. Over a period of 505 years in Luancheng County, for example, an alternation of drought, ordinary and waterlogging years occurred a total of 293 times, for a 58 percent probability. Third is suddenness. Frequently in the course of a night or following one or two torrential rains, a fight against drought turns into the draining of waterlogging. In mid-July 1978 in Zunhua County, for example, only 60 millimeters of rainfall fell, causing a "stifling drought." By late July, however, the quantity of rainfall increased to 559.3 millimeters to bring disaster of another kind. This suddenness causes very great damage to agricultural production. Fourth is the cyclical nature. Drought and waterlogging are meteorological disasters on a large scale; consequently, their cyclical nature is rather obvious. Looked at in terms of the laws of evolution of Hebei Province's summer droughts, severe summer droughts over a large area occurred about once every 10 years. The same is true of waterlogging. In Hebei Province, the evolutionary law is one small waterlogging every three years, and one large waterlogging every seven years. In years of widespread, large amounts of rainfall, the waterlogged area tends to be on plains at the foothills of mountains, and in years of scant rainfall, the waterlogged region appears in coastal areas.

Because of the frequency of drought and waterlogging in Hebei Province, the agricultural climatic conditions causing inconsistent yield are rather conspicuous; therefore, crop patterns should not be overly centralized. This is because the more regionalized or specialized agricultural production is, the more severe are the demands on agricultural climatic conditions. Consequently, planting methods of regionalized or specialized crop patterns should not be adopted for use in Hebei Province. All that can be done is to proceed from full and equitable use of climatic resources to adapt general methods to local conditions, centralize appropriately, match early and late ripening varieties of crops, match summer and fall ripening crops , plant a mixture of different crop varieties, and take the path of comprehensive development of farming, forestry and animal husbandry. In addition, crops that are fairly tolerant of drought, such as corn, millet and cotton, should be grown more.

Furthermore, multiple actions to control drought and waterlogging should be taken, curing the problem at its source. Major efforts should be directed to curing the problem at its source in Taihang Mountain by doing such things as solving the plant cover problem there, which would play a major role in reducing drought and waterlogging damage. On the plains, vigorous planting of trees for afforestation should be done to regulate the climate and moderate the disadvantageous conditions of frequent drought and waterlogging in Hebei Province.

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CSO: 4007/244

BRIEFS

RECORD HOG PROCUREMENT--In 1979, live hog procurement in Hebei Province amounted to more than 4,838,000 head, more than 1,396,000 head more than in 1978, for a 40 percent increase. In 1980, procurement in the province amounted to more than 5,483,000 head, more than 644,000 more than were procured in 1979, for a 13 percent increase, marking an all-time high level for hog procurement in Hebei Province since the founding of the PRC. In 1981, procurement in the province amounted to 5,797,900 head, more than 314,000 more than in 1980, for an increase of almost 6 percent, again registering a new all-time high record. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 9 Feb 82 p 1] 9432

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BRIEFS

RAINFALL 1-4 MAY--Rain fell in most parts of Heilongjiang Province from 1 to 4 May with the western and northern parts receiving more rainfall than the eastern and middle parts. Longjiang, Gannan, Tailai and Fuyu Counties and Qiqihar Municipalities had rainfall ranging from 57 to 20 millimeters. Precipitation in the northern part of Heihe Prefecture and the western part of Nenjiang ranged from 19 to 12 millimeters. Most of the remaining areas had rainfall under 10 millimeters. Soil moisture in most of the province is adequate thanks to this rainfall. Drought in the southern part of Nenjiang Prefecture and the southwestern part of Suihua Prefecture is somewhat relieved. The rainfall is conducive to sowing field crops and emergence of wheat seedlings. Waterlogging in the eastern aprt of Heijiang Prefecture worsened. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 4 May 82 SK]

FISH FARMING--Heilongjiang Province plans to invest 6 million to help communes and brigades develop fishing farming. Recent years have seen rapid development of freshwater fish-farming in the province. By the end of 1981, there were 2,400 fish-farming units run by communes and brigades in 69 municipalities and counties. Water areas for fish-farming totaled 1.64 million mu. The province plans to expand water areas for fish-farming to 2.25 million mu this year. [SK060633 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 4 May 82]

CSO: 4007/407

EXCESSIVE GROWING OF TOBACCO DISCOURAGED

Beijing ZHONGGUO NONGMIN BAO in Chinese 21 Feb 82 p 2

[Article by Wang Biao [3769 1753]: "Blind Growing of Tobacco Must Give Rise to Bad Consequences"]

[Text] Henan Province is a major tobacco base for the country, both area planted and total output amounting to one-third the national total. In 1981 plans called for Henan to grow 1.7 million mu, but 2.3 million mu was actually grown for an output of 750 million jin. A person in charge at the Henan Tobacco Institute told the reporter that "comrades in charge in the central government have already directed that national tobacco acreage this year not exceed 8 million mu. A survey shows that this year the tobacco growing area in Henan will be expanded to 4.7 million mu, or may even break the 5 million mu mark." Such blind development of tobacco must give rise to bad consequences. First is stockpiling and waste. Such a lesson has already occurred several times in history. In 1979, Henan expanded tobacco growing and had a bumper autumn harvest giving rise to stockpiling and waste. The tobacco leaf could not be burned, nor could it be composted. Bank loans to buy tobacco and store it in warehouses cost several tens of thousands of yuan per month in interest alone. Quite a few communes and brigades in Xiping County composted the tobacco, but the following year many crops caught communicable diseases. If 4.7 million mu is grown this year, figuring a yield of 300 jin per mu, that means 1.41 billion jin. Exporting it will not work; it will have to be marketed helter-skelter domestically, causing disruption to the state plan. Second is decline in quality. Comrades at the Henan Tobacco Institute said that during the 1950's Xuchang tobacco enjoyed a very high reputation in international markets, and all countries were anxious to buy it. Since 1970, however, as a result of one-sided pursuit of quantity, quality has increasingly declined, and it has lost its competitiveness on international markets occasioning great losses for China. Third is the creation of management turmoil. In Henan, 11 large tobacco plants have been approved the state. Some of the small tobacco plants that were shut down by State Council directive in 1979 have not only resumed operation, but a large number of small rustic workshops operated by individual households have started up. These small tobacco plants and small workshops evade taxes and cheat on taxes, raise tobacco prices as they please, and compete with large plants for raw materials. Some of them even collude with people in printing plants and in large tobacco plants to put out counterfeit products. In 1981, the Xuchang Municipal Control Comission discovered that a small family workshop had counterfeited Shanghai

"Daqianmen" brand and Xuchang "Daqianmen" brand, customers being cheated. To smoke this tobacco, one had to "get a high flame, shield it from the wind, and not greet any acquaintance one might meet (or the tobacco might go out in the time required to greet him), producing a bad effect. The comrade in charge of the Henan Tobacco Institute emphasized that blind development of tobacco production was taking place not only in Henan, but also in some northwestern and northeastern provinces. Consideration of the overall domestic and international market situation requires that the tobacco growing area be stabilized and quality improved to assure implementation of state growing plans. Actions that show no concern for state planting plans in a one-sided pursuit of increases in local financial earnings hurt both the country and the people, and should be corrected.

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BRIEFS

NITROGENOUS FERTILIZER PRODUCTION--The system of small nitrogenous fertilizer plants in Henan Province overfulfilled its production quota for the first quarter of this year by 11.55 percent. Output was 33.39 percent more than in the corresponding period of last year. The system made profits of 730,000 yuan in this period. Over the past year or so, this system has saved some 200,000 tons of coal and 60 million kilowatt-hours of electricity, achieving relatively good economic results. [HK221503 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 19 Apr 82]

WHEAT CROP--Zhengzhou, 21 Apr (XINHUA)--Henan's 62 million mu of wheat is growing well at present as field management is being intensivied. The crop's growth is better than last year in Kaifeng, Xuchang, Zhoukou and Zhumadian Prefectures. [OW251403 Beijing XINHUA Domestic Service in Chinese 0035 GMT 21 Apr 82]

CSO: 4007/407

BRIEFS

XUZHOU PREFECTURE WHEAT--Xuzhou Prefecture, Jiangsu, has strengthened the field management of its wheat, barley and naked barley on more than 6 million mu. Since the beginning of April, the prefecture has irrigated nearly 2 million mu of wheat crop. [OW110131 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 9 May 82]

SIDELINE PRODUCTION--Jiangpu County, Jiangsu, actively develops its communes' and brigades' collective sideline production with good results. As of early April, the county's output value of diversified economy had reached 17.9 million yuan, an increase of 30 percent over last year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 9 May 82 OW]

CSO: 4007/406

BRIEFS

RAPESEED HARVEST--Fengcheng and Dongxiang counties in Jiangxi have reaped bumper harvests of rapeseed this year. Fengcheng County's total output exceeds 6.79 million jin, an increase of 1.61 million jin over the all-time record last year. Dongxiang County's total output is 10 percent more than the record year of 1981. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 9 May 82 OW]

COTTON MEETING--A provincial meeting on cotton crop management was held from 28 to 30 April in Fengcheng County, Jiangxi Province. It was presided over by Liu Junxiu, secretary of the provincial CCP committee. It was pointed out at the meeting that, up to 25 April, a total of 1.41 million mu of cotton had been sown in the province, topping that at the same time of last year by 330,000 mu. The meeting urged cotton growers in the province to continue their good work so as to fulfill the cotton-sowing plan. The meeting also asked them to make every effort to strengthen the management of their cotton fields so that a bumper harvest will be achieved this year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 3 May 82 OW]

CSO: 4007/407

BRIEFS

SOWING MECHANIZATION--Jilin Province has scored great achievements in mechanizing sowing operation this year. The province has sowed 16.21 million mu of crops by machines, an 880,000 mu increase over the 1981 figure. By 15 April, the province mechanically sowed over 1 million mu of wheat, oil-bearing seeds and beets, reaching 10 percent of its 1982 sowing plan for this regard. Over 40,000 large and small tractors throughout the province have been checked or repaired and are ready to engage in sowing field crops. [SK190612 Changchun Jilin Provincial Service in Mandarin 2200 GMT 18 Apr 82]

IRRIGATION CANAL--The 25 Li Long (Sanhe) irrigation canal was built and put into operation on 28 April in Jilin Province's Yanji County. (Sanhe) commune is located near Tumenjiang River. To channel the water of this river to irrigate paddy fields, the commune began the construction of this irrigation canal 5 February 1976. With this canal, 4 brigades and 14 production teams will benefit, and 15 million more mu of paddy fields can be cultivated. [SK041302 Changchun Jilin Provincial Service in Mandarin 2200 GMT 3 May 82]

CSO: 4007/407

GRAIN OUTPUT, RURAL INCOME INCREASE URGED

Shenyang LIAONING RIBAO in Chinese 18 Feb 82 p 2

[Article by Sun Weiben [1327 4850 2609], Tieling Prefecture Party Committee secretary: "Steadily Raise Grain Production and Greatly Increase Commune Member Income"]

[Text] Summary. In Tieling Prefecture, the average annual increase in grain output was 400 million jin for the past 4 years. This year the grain output is expected to maintain a steady speed of development. The main emphasis of grain production should be placed on the intermediate-state production brigades, approximately 65 percent of all brigades. Moreover, the potentials of the prefecture's five hilly areas and one water area [in contrast to four parts arable areas] should be explored for breakthroughs, and in the three areas of diversified economy, commune and brigade enterprises, and reduction of expenses. Thus, the income of commune members can grow at a faster pace.

Since the conclusion of the 3d Plenary Session of the 11th Party Central Committee, the Tieling Prefecture had bumper harvests 4 years in a row with an annual increase in grain output of about 400 million jin. The total grain output in 1981 was 4,820 million jin, a gain of 410 million jin over 1980 with a growth rate of 9.1 percent. Commercial grain sold to the state by the prefecture was 2,260 million jin; this averaged 770 jin per member of the agricultural population. At such a relatively high level, how can we continue to keep pace in grain output this year?

Concerning this problem, the party prefecture committee completed a comprehensive analysis of grain output for the entire prefecture: there are a total of more than 12,000 production brigades in the prefecture and 20 percent of them have relatively high production levels. These brigades have high collective outputs; cadres' management levels are also high because they earned the confidence from the masses. Given normal conditions, this year's grain output will not be decreased. However, 15 percent of the production brigades have relatively low production levels. These brigades have had low grain outputs, small [grain] reserves, high outside debts, and have long endured the practice of "sharing one pot of cooked rice." Both cadres and masses urgently demanded that the present situation be changed, and that a production responsibility system of linking remuneration to output be established so that 1982's grain output would increase to a relatively large extent. Standing between these two extremes are 65 percent of the production brigades with medium grain output, whose grain output is insufficient when compared to high level production brigades but more than sufficient when compared to the low production level brigades. These brigades have great potential since they make the decisive difference in grain output for the entire prefecture. It so happens that in this 65 percent of the production brigades, a rather large number of the cadres are hesitant about setting up the production responsibility system. Therefore, the prefecture party committee decided to place this year's work emphasis on these intermediate-state production brigades; cadres of these brigades must be helped to clear the ideological barriers to implementing the responsibility system and to know that the main criterion in distinguishing good or bad policy is whether it is helpful in boosting production and increasing income and that the main dividing line between socialism and capitalism is who owns the means of production and adheres to the principle "to each according to his work," and whether there is any exploitation. The party committee of the prefecture also helped cadres to look at production not just on simple terms, i.e., whether the labor is collective or individual, whether we should focus on collective management or individual management, or whether accounting units should be large or small. Moreover, the cadres of these intermediate-state production brigades should be helped to exert greater efforts to learn and study the responsibility system, and to actively carry out the guiding work well. Thus, the responsibility system can adapt to the local production level, and also to the awareness level of commune members. They were also helped to correctly handle the relationship between control and contract operations, enabling them to develop the superiority of collective economy and to mobilize the individual enthusiasm of commune members.

Of course, the rate of increase in grain output is determined by a number of factors and there are many aspects of work to be done. However, the central problem of higher grain output is to do well in these intermediate-state production brigades, especially in improving production responsibility system of these brigades.

As we work hard for a continual and steady growth of grain output, we must also speed up the increase of commune members' income. In Tieling Prefecture, there are five hilly areas, one water area, and four arable areas. It is apparent that we cannot live on four arable areas alone. This year we must make full use of local resources and local advantages to vigorously work on the the following three aspects on the basis of the overall development of forestry, animal husbandry, sideline enterprises, and fishery:

1. Seek Breakthrough in Diversified Economy

We should effect a breakthrough in the areas of "two silkworm species, two fruit species, one species each of sheep and rabbit," in order to mobilize a speedy development in diversified economy, because these activities need only small investments but yield rapid results. In the prefecture, there are barren hills, wasteland areas covered with plant stalks, and sizable grasslands; good conditions to develop tussah and mulberry silkworms, Chinese hawthorne trees, grapes and raise sheep and goats and rabbits. These activities can be quickly developed throughout the prefecture if only cadres at different levels can pay attention to diversified economy in the same way that they paid attention to grain. Early last year there were only 170,000 hawthorne trees in Xifeng County; but because the leadership of the three levels of county, commune and brigade had paid attention to diversified economy, the number of hawthorne trees increased to 810,000. In only a little over 2 years, the Xibeitu Production Brigade of Liushutun Commune in Kangping County tripled the number of sheep and goats.

II. Commune- and Brigade-Operated Enterprises Must Achieve Breakthroughs

In 1981, the gross output value of commune- and brigade-operated enterprises in the entire prefecture was approximaely 200 million yuan and the profit, less than 40 million yuan, was lower than that of the single county of Haicheng. This year the commune- and brigade-operated enterprises should gear themselves to the needs of the broad rural market. For example, it is projected that this year 70,000 houses will be built in rural areas in the prefecture. If the commune- and brigade-operated enterprises can mass produce bricks, tiles, cement, steel windows, terrazzo tiles, prefabricated pieces, and other construction materials, the enterprises concerned would not only have no worries about the source of raw materials, but also about the marketability of their products. This would be one way to accumulate wealth. Also, the agricultural and sideline products of Tieling Prefecture are quite abundant. Therefore, sound management of the initial and intermediate processing of agricultural, forestry, animal husbandry, sideline and fishery products also provides a way of wealth accumulation.

III. There Must Be a Breakthrough in Lowering Expenses

In recent years, production costs of the Tieling Prefecture hovered consistently near the 40 percent mark. There are two main reasons for the overly high production costs: one reason is that most production brigades irrationally applied chemical fertilizer without noticing the rational compounding ratios of nitrogen, phosphorus and potassium. As a result, costs were not reduced but the expected results of increasing output were not forthcoming. The other reason is that most production brigades illegally, in the name of the two items of "other expenditures" and "other grain reserve" bartered with others, feated and engaged in heavy drinking, invited guests and presented gifts. This year we must stress the scientific application of chemical fertilizers and eliminate the waste in the "two other" category, and make efforts to bring down the production costs.

10424
CSO: 4007/326

COLD CLIMATE CORN, MILLET, SOYBEAN VARIETIES BRED

Changchun NONGCUN KEXUE SHIYAN [RURAL SCIENTIFIC EXPERIMENTS] in Chinese No 1, 1982 p 13

[Article by Zhang Guishan [1728 6311 1472] and Hu Jiahai [5170 0502 3189]: "Several New Varieties Suited to Mountain and Semi-Mountain Areas"]

[Text] Technicians at the agricultural science experimental station of the Dunhua County stock farm have bred, after several years of practice, several early maturing high yield new varieties with strong adaptability for high and cold mountain regions with a short frost-free period and slight effective accumulated temperatures. Some of them the province has evaluated as fine varieties, and Dunhua County has grown them over wide areas. Some other counties and communes are introducing and spreading their cultivation. In order to better understand and master these new varieties, a briefing on their characteristics is given below:

"Dundan No 2" Corn

The province has evaluated Dundan No 2 as a fine variety. It is a single hybrid corn bred in 1974 from the crossing of Pi 383, its female parent, with Liu 1-2, its male parent. It has a 112-day growing period and requires accumulated temperatures of 2,050°C. This variety has long, narrow leaves, a plant height of about 210 millimeters, strong stems that are resistant to lodging, and strong resistance to leaf spot. Young seedling leaf color is dark green, and growth is rapid. Kernels are of the semident type, their color being reddish yellow, and their per hundred weight 29 to 30 grams. A mu will support between 3,000 and 3,600 plants for an output of between 550 and 650 jin.

"Dunga No 4" Millet

The province has evaluated Dungu No 1 as a fine variety. It was bred in 1973 using intermediate line [0022 4842 4762] "large coarse head" seeds. It has a 100-105-day growing season and requires accumulated temperatures of from 1,800 to 1,900°C. It is strongly resistant to cold during the seedling stage and grows rapidly. Leaf tips are purplish. There is no tillering. Plant heights reach 120 to 130 millimeters. Stems are hard and thick, resistant to lodging. It is resistant to blast disease, white fungus disease, and yellow rust. Heads are ovular in shape and between 20 and 23 millimeters long. Head weight runs from 10.4 to 10.8 grams, and the per thousand weight of grains is 1.9 to 2.4 grams. Weight following removal of husks is 75 to 80 percent of gross weight. Yields are about 400 jin per mu. It is a variety that produces bumper grain yields and prodigious amounts of straw.

"Dunliang No 4" Soybeans

Dunliang No 4 tested out as a relatively fine variety in combined area experiments on soybeans conducted in the province, and it is currently being propagated over a wide area. This variety began in 1972 with the crossing of the female parent, "Fengshou No 13" with the male parent, "Xinsilihuang." It has a growing period of about 110 days and requires accumulated temperatures of about 2,000°C. Growth during the seedling stage is rapid. Leaf color is dark green; leaves are oval in shape; plant heights are about 70 millimeters, and it is characterized by limited pod formation. Many pods contain three or four beans. When pods are ripe, they are brown, and beans are cream colored or dark brown. The per hundred weight of beans is about 22 grams. Each mu supports about 15,000 to 16,000 plants for yields of 350 to 390 jin, making it a new variety with strong bumper yield characteristics.

9432
CSO: 4007/268

LIMITATIONS ON SELF-DETERMINATION IN PLANNED ECONOMY STRESSED

Shenyang LIAONING RIBAO in Chinese 12 Feb 82 p 1

[Articulture by Commentator: "Continued Need to Take Planned Economy as Key Link in Agriculture"]

[Text] At the start of this new year [lunar calendar], Comrade Chen Yun invited comrades from the State Planning Commission for a discussion that emphasized adherence to taking the planned economy as the key link and market regulation as supplementary. He pointed out that ours is a planned economy in which industry takes a planned economy as the key link and that following institution of systems of responsibility in agriculture, it would still be necessary to take a planned economy as the key link. This is an extremely important fundamental policy in the building of socialism. Profound understanding of this fundamental policy and resolute implementation of this fundamental policy in this year's formulation of agricultural production plans is a major task facing the broad masses of cadres and commune members on the agricultural front.

"Since rural villages have universally instituted systems of responsibility, what is the point in emphasizing planned economy as the key link?" is the question that some comrades pose. This is to confuse systems of responsibility with planned economy. Systems of responsibility are an administration and management tool. They and planned economy are two different matters, and they cannot be used to take the place of planned economy. Ours is a socialist country, and a socialist economy is a planned economy in its very essence. Only by persevering in putting all major economic activity on the track of the state plan is it possible to assure the planned proportional development of the national economy. The agricultural economy is a major integral component in the national economy; its development is inseparable from socialist modernization as a whole, and so it positively cannot be divorced from national plan guidance. Our practice of a system of responsibility for production in rural villages has aroused the enthusiasm of the peasants to the maximum extent, and it is, in the final analysis, bringing about, in accordance with state plans, a more rapid, bigger, and more fulsome development of agriculture. Therefore, no matter the form of a system of responsibility practiced, planned economy must likewise be practiced, and a planned economy must likewise be the key link, market regulation supplementary. This is not only advantageous for the country, but is also very advantageous for the peasants. Some comrades suppose that with the practice of systems of responsibility, peasant enthusiasm has increased and products have become abundant, and naturally the peasants will follow the guidance of state plans, so what need is there to emphasize a planned economy as the key link. Experience has shown that the higher the enthusiasm of the peasants for production, the more attention we must devote to strengthening national planning guidance, to inducing the peasants to develop production in accordance with social needs, to prevent and correct blindness and anarchy in production, to prevent and correct a tendency to be concerned only for self without being concerned about the state or the collective, or caring only for present benefits or partial benefits rather than care about long range benefits and all around benefits, and to teach peasants not to "freely" select only the methods that provide them a momentary benefit. Much training has been given in this regard, and we cannot afford to be the slightest bit vague and ambiguous about this.

"Our production patterns here are already very equitable, so what need is there to emphasize taking the planned economy as the key link?" This is something else one hears. That is right. Looked at in terms of the province as a whole, as a result of the clearing away of "leftist" influences, the structure and pattern of agricultural production has gradually become equitable, resulting in a fine situation of all around development of grain production and economic diversification. However, we must realize yet another problem, namely that in a one-sided pursuit of economic income, in some places symptoms have appeared of not wanting to plant a sufficiently large gra grain area and blind expansion of economic crops. Some suburban communes and brigades do not want to grow vegetables in accordance with state plans. Some places do not want to fulfill requisition procurement quotas for agricultural sideline products that have been handed down by the state, etc. Even though these problems are not in the mainstream, if they are not given attention but allowed to develop at will, they will overwhelm state planning and effect the national economy and the people's livelihood. Furthermore, whether or not production patterns are "equitable," cannot be looked at purely in partial terms, but must be judged in terms of the situation as a whole. Some things that look equitable when looked at in partial terms are not only equitable when looked at in terms of the situation as a whole, or may be very inequitable. This requires that we take the whole situation into account and make plans taking all factors into consideration. The overall situations that we are currently emphasizing are basic facts such as the need for 1 billion people to eat, no further national reductions in the grain growing area, and no further increases in grain imports. In striving to make the most of local advantages and potential, we cannot stray from this overall situation, and we must submit to this overall situation.

"Isn't the emphasis on taking a planned economy as the key link a return to the old road of 'arbitrary uniformity'?" Some comrades worry that this is so, and such feelings are understandable because the "gang of four" hoisted the banner of "planned economy" to practice "arbitrary uniformity," the hardships resulting for the broad masses of peasants being truly grave. However, the taking of a planned economy as the key link with market regulation being supplementary that we are emphasizing today is an entirely different matter than what the "gang of four" practiced. First of all, the "national planning" that the "gang of four" espoused was itself a contravention of objective laws and the welfare of the masses. The more planting that was done under this "national plan," the greater the damage to the national economy. But after the past 3 years of bringing order out of chaos, to readjusting, and restructuring, our state plan guidance today is more in accord with natural laws and economic laws, in accord with the welfare of the country, the collective, and the individual, and in accord with the desires of the peasants. Secondly, today production teams and commune members possess self-determination. Through practice, they have created numerous methods that combine the practice of state plan guidance and respect peasant self-determination, things such as the economic contracts that have been promoted, which can dovetail collective and individual commune member production activities with the state plan. Furthermore, when we advocate adherence to planned economy as the key link today, this is not a "great overturning" of the equitable production pattern brought about by readjustments during the past 2 years, but is rather calling for a program based on "positively no relaxation in grain production while actively launching economic diversification" with consolidation of what is suitable and proper further readjustment of what is not suitable. Looked at in terms of the situation as a whole, the proportion of areas sown to grain and to economic crops should be consolidated at present levels. Consequently, to suppose that strengthening of planning guidance means "arbitrary uniformity," is completely erroneous.

Of course, in the process of strengthening planned guidance, individual places or individual cadres may, because of onesidedness in their understanding, manifest a different kind of deviation. Under the pretext of strengthening planning guidance and without regard for complex situations, they may indiscriminately use administrative orders, re-committing the error of blind commanding and "arbitrary uniformity." However, all that is needed is a strengthening of leadership and meticulousness in work, and this kind of situation may be avoided or promptly overcome. Agricultural production in Liaoning Province will certainly be able to gain all-around development while guaranteeing national needs.

9432
CSO: 4007/250

BRIEFS

FOREST FIRES--Since this spring, Jinxian County in Jinzhou Municipality, Liaoning Province, has scored great achievements in afforestation, planting over 27,000 mu of trees whose survival rate reaches about 50 percent. Over 13,000 mu of forests have survived. Unfortunately from January to mid-April the county suffered 15 forest fires which burned over 4,000 mu of young growth and barren hills, accounting for 14.8 percent of the forest acreage planted this spring. Most of these fires broke out because the people persist in the feudal superstition of burning paper while visiting their ancestors' graveyard. [SK090754 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 8 May 82]

CSO: 4007/407

BRIEFS

DRINKING WATER--Xining, 3 May (XINHUA)--Drinking water problem has been solved in 60 percent of the water shortage areas in Qinghai Province, thanks to efforts made by party committees and governments at various levels in the province during the past few years. By the end of 1981, some 15 million yuan had been allocated by the state to build 610 projects designed to solve the drinking water problem. Some 23,000 kilometers of water pipes have been built, thereby solving the drinking water problem for more than 580,000 people and 3.6 million head of livestock. [OW100347 Beijing XINHUA Domestic Service in Chinese 0029 GMT 3 May 82]

ANIMAL HUSBANDRY--Haidong Prefecture of Qinghai Province has made relatively rapid progress in the past 2 years. Comparing 1981 with 1980, draft animals increased by 23,000 head, sheep and goats increased by 111,000 head and hogs increased by 28,000 head in the prefecture. [SK060854 Xining Qinghai Provincial Service in Mandarin 2330 GMT 5 May 82]

ILLEGAL SALT SALES--The Qinghai Provincial Salt Admiinstrative Bureau recently adopted measures to check illegal salt sales among commune members, disclosing that the annual illegal sales of crude salt amount to over 10,000 tons, causing a loss of over 2 million yuan to the state. Between June 1981 and March 1982, this bureau cracked down on 212 minor and major illegal crude salt selling cases, recovering 278 tons of crude salt. [SK221332 Xining Qinghai Provincial Service in Mandarin 2330 GMT 21 Apr 82]

CSO: 4007/407

PARAMOUNTCY OF PLANNED AGRICULTURAL ECONOMY STRESSED

Shanghai WEN HUI BAO in Chinese 18 Feb 82 p 1

[Article: "Agriculture Paramount; Planned Economy Paramount. Chen Guodong [7115 0948 2767] Proposes Suburban Production Program Requires Strengthening of Agriculture, Development of Sideline Industries, and Readjustment of Industry For Coordinated Development"]

[Text] At the 16 February Municipal Agricultural Work Conference, Shanghai Municipal CCP Committee First Secretary Chen Guodong analyzed the situation in the economic structure of suburban agriculture, sideline occupations, and industry. He pointed out that the suburbs must adhere to "making the planned economy paramount, and market regulation supplementary," and diligent implementation of a program of "making agriculture paramount in coordinated development of agriculture, sideline occupations, and industry."

Comrade Chen Guodong first affirmed a fine situation in suburban rural villages. He said that in recent years suburban areas had substantially carried out a program of "making the planned economy paramount and market regulation supplementary," and that agricultural production levels were fairly high, making a fairly great contribution to support of industry and urban construction. The masses universally reported that supplies in the market for this year's lunar new year, in particular, were better than in 1981. This was the result of efforts made by the broad masses of cadres and people in the suburbs. However, nowadays a tendency to depart from plan and to grow what one likes has developed in the suburbs, to break up whole lots of collective goods into parts for sale in country fair markets, and to enlarge the proportion of agricultural sideline products sold to the state at negotiated prices. This tendency should arouse the serious attention of our party organization at all levels to do a good job of political and ideological indoctrination of cadres and commune members.

Comrade Chen Guodong also analyzed advantageous factors in Shanghai's development of agricultural production. He said that Shanghai located at the mouth of the Chang Jiang has a temperate climate and fairly good water conservancy conditions, in addition, it has the support of large urban industries, and the support of scientific and technical forces, and it also has conditions for enclosing parts of the sea to make fields. Production avenues are also fairly numerous. Our agriculture should be done somewhat better. But looked at in terms of the situation in suburban agricultural production, the ups and downs have been fairly great. This has been partly the result of natural disasters, but it is also a subjective problem. We should diligently study this problem. The suburbs should go on from consolidation to seek the heights and actively advance, strengthen agriculture, develop sideline occupations, and readjust industry so that suburban agriculture will continue steady forward development.

Comrade Chen Guodong said that in consideration of the long range welfare of suburban peasants, we should accurately handle the relationship between accumulations and consumption, the relationship between the overall and the partial, and the relationship among the state, the collective, and individuals to achieve adjustment between years of plenty and years of scarcity. In addition to the support provided by the state, construction of agriculture currently relies on accumulations from agriculture itself to provide for agriculture and to develop agricultural production.

Comrade Chen Guodong said that we should now strengthen agricultural leadership and not ignore the tendency to leave agriculture. All county CCP committees, commune CCP committees, and brigade CCP branches should devote their main energies to agriculture and place agriculture on their own daily agenda of important things to do. They should particularly enhance ideological leadership in carrying out party programs and policies, and buttress indoctrination in the alliance of agriculture and industry. They should strengthen industrial support of agriculture. They should attach full importance to the application of science and technology and take advantage of the role of science and technology in agricultural production to raise suburban agricultural production to a new level.

This agricultural work conference opened on 8 February and closed on 17 February, lasting for 10 days. Deputy Mayor Chen Zonglie [7115 1350 3525] gave a speech. On the afternoon of the 13th, Municipal CCP leaders Chen Guodong, Hu Lijiao [5170 4539 2403], and Wang Daohan [2076 6670 3211] listened to conference reports and approved the conference. Personnel in charge of counties, communes, farms, and research units as well as persons in charge at relevant municipal units attended the conference.

9432
CSO: 4007/250

BRIEFS

ANTIFLOOD WORK CONFERENCE--A provincial antiflood work conference opened in Chengdu on 5 May. Leading comrades from all parts of the province and provincial departments concerned are attending the meeting. Provincial CCP Committee Secretary Yang Wanxuan and Deputy Secretary (Yang Xizhong) made speeches on the opening day. The conference's tasks are to sum up the experiences and lessons of the struggle against flood last year and, on this basis, further enhance understanding of the importance of antiflood work, and map out plans and measures for the work this year. (Liu Chongyi), deputy director of the provincial antiflood command, delivered a report. He said: "According to forecasts by the national meteorological and hydrological departments concerned. There may be further great floods in our province this year. In our antiflood work this year, it is necessary to further strengthen leadership over the work, set up command organs and put them on a sound basis, and map our measures for antiflood and crash-rescue work. Ideologically, organizationally and in measures, we must make full preparations for the province's worst flood since liberation." (Yang Xizhong) stressed: Leading comrades at all levels must have clear understanding of this work this year and get rid of ideas of taking the matter lightly. The departments concerned must do well in medium and short-term weather forecasting. It is necessary to organize flood-fighting forces and materials and be ready to work with local PLA units in fighting floods. [Summary] [HK060606 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 5 May 82]

CSO: 4007/407

YUNNAN

BRIEFS

PIG PROCUREMENT--The number of pigs procured and sold to the state in Yunnan Province in the first quarter of this year increased and the supplies of meat in urban areas were stable. As a result, the prices of meat were stable and even dropped. The number of pigs procured in 79 countries in the province in the first quarter of this year was more than in the first quarter of last year. In the first quarter of this year, the province procured 748,600 pigs, 39,200 pigs more than in the corresponding period of last year. The province sold 191,000 pigs to the state in the first quarter of this year, 46,700 pigs more than in the same period of last year. [HK240303 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 19 Apr 82]

CSO: 4007/407

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TITLE: "Analysis of Structure of Agricultural Production in Zhongshan County"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 1, 8 Jan 82 pp 7-9

ABSTRACT: Zhongshan County is located to the south of the tropic of Cancer in the southern part of Zhujiang delta. The climate is subtropical; the land is flat and crisscrossed by many streams. It has always been known as the home of fish and rice. In 1979, the county has 1,205 thousand mu of cropland, with 68.6 percent in rice paddies, 10.7 percent in sugar cane, 1.9 in mulberry, 1.5 in orchards, 5.2 in other crops, 7.7 in fish ponds, and 4.4 in forage. In the 60's, the yield of dual crop of rice averaged 727 jin/mu, an increase of 34 percent over the previous decade. In the 70's, the average is 914 jin/mu and the increase is only 20 percent, except for one year, 1977, when the yield exceeded a thousand jin/mu. The yield increase potential remains very great if the production of grain is not overemphasized. Modernized agriculture should mean a structure of crops, forestry, animal husbandry, auxiliary industries, fishery, and industries of avery, entomology, and microbes, based upon natural and economic realities of the locality. Possible revisions of the existing structure of farm production to make it more reasonable for the benefit of the locality are discussed, with emphasis on the shortcomings of the triple crop [early and late rice crops, and winter grain] system and possible ways of varying it.

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TITLE: "Arrangement of Breeds of Rice on the Basis of Cumulative Temperature and Safe Period Considerations"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCE] in Chinese No 1, 8 Jan 82 pp 11-14

ABSTRACT: This paper analyzes the requirements of a safe growth and development period and cumulative temperature of rice breeds of different maturing times in the region of Shaoqing. Through a clarification of the difference in the condition of cumulative temperature of different areas and the safe seeding and heading time of different breeds, the paper seeks to explain the relationship between high yield and stable yield of paddy rice. There is a detailed analysis of the relationship between the cumulative temperature and stable yield of breeds of different maturity characteristics, which are classified into the 3 types of early ripening, intermediate, and late. The situation is, of course, further complicated by the dual-crop system of early and late rice crops. Discussions are in terms of principles; temperature requirements of specific breeds are mentioned in footnotes to serve as examples only.

6248
CSO: 4011/73

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TITLE: "On The Intensive Management [Policy] of China's Agriculture"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese No 1, 23 Jan 82 pp 3-8

ABSTRACT: It matters not how China's agriculture is to be modernized, the basic route to development is intensive farming. There is absolutely no doubt about the matter; the only problems to be seriously investigated are ways of intensive management. Intensive farming means the opposite of extensive farming. That is to say, in relative terms, more productive materials and labor are invested in a given area of land, with ever advancing technical measures to work the land in more precise detail. These measures may vary in the 3 types of labor intensive, capital intensive, and technology intensive. Judging from the current conditions of China, proportionally, i.e. compared with developed countries of Europe and America, China has less cropland and less materials to be invested. What China has and must depend on is her abundant labor force. In fixed asset equivalent, each labor force is only worth 250 yuan, to be responsible for 5 mu of cropland and in the same sense each mu has the average worth of only about 50 yuan. Hence, of the 3 types, China's belongs to the labor intensive type of farming. In a very exhaustive analysis, this paper attempts to plot an optimal approach to agricultural modenization through defining intensive farming in terms of maximum benefits permitted by the realities.

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TITLE: "The Passive Situation of Concentrated and Excessive Logging of China's Major Forests Must be Changed as Soon as Possible"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese No 1, 23 Jan 82 pp 9-12

ABSTRACT: Since the liberation, the State has invested 6.9 billion yuan and constructed 100 thousand km of roadways to develop remote forests and close to 1 billion m^3 of timber has thus been accumulated. Forestry remains the weakest link in the national economy, however. The coverage is low, only about 12.7 percent of the 70 percent mountainous areas of the territory; the timber consumption has been excessive; and the vegetative coverage rate of these forests is deficient. This paper presents the historical facts of China's forestry industry and its precarious condition today. A 7-point program is proposed to counter these shortcomings, including an immediate and radical change of the logging policy. Forestry data of England, W. Germany, Finland, Sweden, etc. are offered to show the backwardness of that of China.

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TITLE: "Preliminary Investigation of Agricultural Development Strategies of the Huanghe-Huaihe-Haihe Region"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese No 1, 23 Jan 82 pp 19-24

ABSTRACT: In the summer and autumn of 1981, the authors participated in the project of the National Committee of Agriculture to carry out a comprehensive agricultural and ecological investigation of the Huanghe-Huaihe-Haihe Region. The key points of investigation are: (1) The low plains of Hebei, Shandong, and Henan, including the Cangzhou Prefecture and Hengshui Prefecture of Hebei, the Huimin Prefecture and Dezhou Prefecture of Shandong; (2) The Huanghe and Huaihe Plain, including Shangqiu Prefecture and Zhoukou Prefecture of Henan and Suxian Prefecture of Anhui. The improved ecological environment of the region is described, before the paper proceeds to discuss the energy transfer and material cycle characteristics of the region. Finally, based upon the observed facts, a strategy and directions of development of that region's agriculture are proposed, with some extensive evaluation of those problems of the region that require immediate attention.

AUTHOR: WANG Quanxin [3769 0356 2450]
QIU Kangyu [5941 1660 5038]

ORG: WANG of Henan Provincial Academy of Social Sciences; QIU of Henan Provincial Department of Agriculture

TITLE: "Preliminary Discussions of Cost Accounting of Agricultural Products"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese No 1, 23 Jan 82 pp 37-40

ABSTRACT: In the course of agricultural readjustment to improve the economic benefits of agricultural production and to accelerate agricultural modernization in the province of Henan, the authors believe that the problem of cost computation of agricultural products should not be overlooked. Since the 11th plenum of the 3rd congress of the party, a system of responsibility in varying forms has been established throughout the province. The masses of farmers are thus content and there is unprecedented positive feeling about work. Statistical data of 1980 still indicate a low level of economic benefits, however; they have not been restored to the level of 1957. This paper explains the importance of cost accounting of agricultural products and its function in reducing cost and increasing benefits from the viewpoint of economics. Generally speaking, instead of treating yield increase and thrifty operation as contradictions, cost computation unites the two so that the yield is not only a material transfer of live labor but also its crystallization. The essence is to use minimum labor to achieve maximum benefit. The technique is described and justified.

6248

CSO: 4011/71

AUTHOR: XU Shiqi [1776 1102 1142]

ORG: Chinese Communist Party Central Committee of Liuan Prefecture

TITLE: "A Debate That Has Aroused Widespread Attention"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 3, 23 Mar 82 pp 3-7

ABSTRACT: The debate concerning guaranteed production and work has persisted everywhere in the nation for as long as 3 years. Judging from the 3-year practice of Liuan, affirmative answers have been produced with respect to the debates about the time, the direction, the method, the limits, and the prospects. In 1978, the region suffered the greatest drought in 200 years. When the system of twofold responsibility was adopted in 1979, only 16 percent of the production teams participated. The number jumped to 90 in 1980 and 98 percent in 1981. The drought persisted in these 3 years. The 1981 data show that the total grain yield of the prefecture reached 5,200 million jin, an increase of 24 percent over the previous year and 4.6 percent over the highest historical record. The yield of oil products was 3.1 million dan, $1\frac{1}{2}$ times of the record year of 1980. Yield of flaxes, tea, and silkworm all increased more than 10 percent over the highest historical records. The distributed income averaged 123 yuan/member, an increase of 96 percent over 1980. The income from family auxiliary industry averaged 53 yuan/person, an increase of 59 percent over 1980. Adding the 2 items together, the net income per persons was

[continuation of NONGYE JINGJI WENTI No 3, 1982 pp 3-7]

176 yuan, a net increase of 80 yuan over that of 1980. It is estimated that the prefecture will have 1,200 million jin of grains added to its granary, an increase of 200 million jin over 1980. More than 77,000,000 jin of oils have been sold and delivered, 5.6 times the quota of the statistical plan and 2.27 times of the same period of 1980. More than 1.16 million dan of flaxes have been sold and delivered, amounting to 173.5 percent of the planned quota; 98,300 dan of tea leaves, amounting to 110 percent of the quota; and more than 700 dan of silkworms, amounting to 111 percent of the quota. With increases of agricultural production, income, and contribution [to the State], very obvious changes have also occurred in the improvements in clothing, food, lodging, and travel of the commune members.

AUTHOR: KANG Mingzhong [1660 2494 0022]

ORG: Guizhou Provincial Academy of Social Sciences

TITLE: "Preliminary Viewpoints Concerning the System of Individual Household Responsibility for Agricultural Production in Guizhou Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 3, 23 Mar 82 pp 8-12

ABSTRACT: The paper explains the househood work contract as a simpler form compared with the household production contract system. With the latter, the way that is practiced in most communes and bridges is that under the unified leadership, planning, and distribution authority of the production team, all the production responsibilities ofthe team are contracted out respectively to each household, practicing a system of fixed production, expenditure, and distribution according to labor points, with awards for exceeding the quota and penalties for shortages. With the former, under the condition of preserving the existence of the production teams, the land is distributed to member-households of the entire team to permit each household to complete the quota responsibility, with the collective keeping a percentage and the household keeping all the surplus products [if any is left.] The author believes that the former system is both natural and reasonable. According to the conditions of the province, the prospects of this system are very good.

AUTHOR: HONG Bingxia [3163 0014 1115]

ORG: Zhejiang University of Agriculture

TITLE: "Transform the Farming Systems of Zhejiang to Conform With the Principle of Ecological Balance"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 3, 23 Mar 82 pp 24-28

ABSTRACT: Soon after the liberation, in 1955, the grain yield of Zhejiang was brought from the 340 jin/mu level to 544 jin/mu to realize self-sufficiency; in 1966, it reached 874 jin; in 1972, 1,082 jin; in 1979, 1,394 jin. The total grain production of the province was raised from 8,600 million jin of 1949 to 31,200 million jin of 1979, a 2.6 times increase in total yield and 3.1 times in unit yield. Each person's grain ration was increased from 413 jin to 850 jin, more than doubled. There were also large scale increases in the production of other economic crops and animals. From 1949 to 79, the cotton increase was 8.8 times, rape 1.6 times, jute and kenaf 14.5 times, silkworm 4.5 times, tea 8.9 times, cane sugar 7.8 times, citrus 5.9 times, pigs 5.3 times, and marine products 10.4 times to demonstrate the obvious results of of changing the cropping system from intercropping to continuous cropping, from single crop to dual crop, from intermediate rice to late rice, from dual crop to triple crop, etc, yet the yield is not stable, the soil fertility is decreasing, and the economic benefits are not high. Many regard these bad results as the natural consequence of

[continuation of NONGYE JINGJI WENTI No 3, 1982 pp 24-28]

the changes of the cropping system but others believe they are not the necessary results but are created by improper measures in the process of changing the system. If the former belief is correct, the system should just be regressed without consideration of the interests of the State, the collective, and the members. The author believes that the latter is the correct one, however. He states his reasons for this belief and proposes that the current system is in need of correction, based upon the following ideas: (1) Agricultural ecology; (2) Plant nutrition; (3) Agricultural economics. These ideas are explored and some concrete suggestions offered.

AUTHOR: ZHANG Musheng [1728 2606 3932]

ORG: Research Institute of Agricultural Economics, Chinese Academy of Social Sciences

TITLE: "Structural Problems of Agricultural Production in Guizhou Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 3, 23 Mar 82 pp 29-33

ABSTRACT: Of the province's 177 thousand km^2 of land, 87 percent are mountains, 10 percent hills, and only 3 percent flatlands, interspaced among the mountains and hills. Of the 5380 thousand mu of flatlands, only 930 thousand mu are cropland. Ever since the ancient times, the saying has been "there are no 3 continuous clear days, 3 continuous li of land, or 3 fen of silver in the pockets." With diligence, the province is now a prosperous region. This paper reviews the historical and the current conditions, with emphasis on the serious unreasonable problems in the production structure, which include continuous deforestation to cause the vegetative cover to be reduced to 14 percent about the same as the early years of the liberation, continuous expansion of cropland at the expense of auxiliary industry, animal husbandry, fishery, etc., extensive farming practices to result in planting a lot and harvesting a little, and a devastating erosion problem of losing 4 mm of topsoil a year. These problems and countermeasures are discussed.

AUTHOR: YANG Fuzhi [2799 4395 5347]

ORG: Zhejiang Provincial Bureau of Grains

TITLE: "How is the Trial Production of Mixed Animal Feed in Rural Areas Promoted by Jinhua City"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 3, 23 Mar 82 pp 38-41

ABSTRACT: In consideration of technological requirements and the spirit of serving current production, soon after the party's Third Plenum, Jinhua City began to experiment on a project of extending the production of mixed feed. Judging from the practice of the project in these 4+ years (1978 through 1981) the mixed feed has proved to be so much better than original single feed, which was actually feeding the pigs etc. whatever was available. Now, pigs are ready one month sooner at 20 percent reduction of cost. Mixed feed is now generally adopted to raise pigs and dairy cattle. In the process of encouraging the production and use of mixed feed, technicians are organized to carry out on site surveys and to proceed with teaching reformed technique of feeding animals. Different formulas of mixed feed are devised according to the available raw materials of each locality and at the same time plants are also organized to process feed. The economic management, i.e. the cost and price structure of feed materials, is changed for the convenience of the masses. In all these, the leaders of the party and the departments keep close touch with one another to bring about the successful results.

6248
CSO: 4011/93

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TITLE: "Vegetative Multiplication Technique of Ramie and Its Advancement"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 3, 1982 pp 10-11

ABSTRACT: Techniques of vegetative propagation of ramie include bundling, branching, layering, and planting cuttings. The first is the traditional technique, reported previously in this journal (No 2, 1978) and is omitted in this paper. That is to say this paper introduces only the newly developed techniques, which include: (1) Branching: It was introduced to Hubei in 1980 in more than 10,000 mu of ramie fields. (2) Layering; (3) Cuttings; (4) Cutting into small bundles, a development from the old bundling technique first studied in Japan in 1933-35, by Institute of Flax Crops, Chinese Academy of Agricultural Sciences in 1974-76, before systematic extension in China. The concrete procedure of each of the 4 techniques and its advantages and shortcomings are discussed.

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TITLE: "A Survey Report of Sui County Cropping System"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 3, 1982 pp 12-15

ABSTRACT: Sui is the largest county in Hubei and is also one of the important cotton and grain bases. In late Jun to Early Jul 81 the authors went to the 3 representative communes of Yingdian, Yunchuan, and Luoyang of that county to carry out a survey of the cropping system there. The paper reports the fast development of agricultural production in the county since the liberation. The total grain production of 1979 is 2.5 times that of 1949. In the same 30 years, the increase in cotton production is 6.6 fold. The cropping system has been changed in 3 stages: (1) The stage of developing the 2-crop system of wheat and rice; (2) The stage of developing the green manure and dual season rice system; (3) The stage of readjusting the acreage of dual season rice and restoring the 2-crop system of wheat and rice. Current problems discussed in the paper including: (1) Too large an acreage of the 2-crop system of wheat and rice; it is in need of being made smaller; (2) The acreage of dual season rice system is too small; it is in need of some restoration; (3)Attention should be given to the problem of general reduction of ground fertility.

AUTHOR: LIU Hongsong [0491 3163 2646]

ORG: Zhongxiang County Research Institute of Microbiology

TITLE: "Determination of Bud-forcing Effect of Mixing Seeds With 5406"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 3, 1982 pp 15-16

ABSTRACT: 5406 is a multi-function microbial fertilizer, or antibiotic fertilizer. According to past reports, good effects may be obtained if it is used for bud-forcing of rice seeds and mixing with cottonseeds while planting. Bud-forcing with 5406 needs no artificial heating. The heat produced by 5406 actinomyces during their metabolic process is utilized for bud-forcing. An experiment was carried out with the solid 5406 fermentation spore powder produced by the institute, in a ratio of spore powder:residue cake power:fine soil: rice seeds of 0.25 : 5 : 50 : 100. Water is added to form the mixture into balls by hand; the balls are piled in piles 5-6 cun in height on grass mats or disease-free straw and covered with grass or green manure. The steam bud-forcing technique is used for control. The 5406 technique is found to cause seedlings to develop roots faster and to produce 15.3 percent more seedlings above the control. The second part of the paper reports an experiment on using 5406 to mix with cottonseeds for planting. An insecticide is used to mix with cottonseeds in the same manner to form the control. The 5406 technique is found to result in faster growing cotton seedlings. There are also fewer holes with missing seedlings. Compared with the control, 26.6-43.4 percent more holes have seedlings entering the one-true-leaf stage, when all holes are inspected at the same time and planted under identical conditions.

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ORG: Both of Agricultural Technology Group, Nanhu Cottonseed Farm, Zhongxiang County

TITLE: "Experimental Determination of the Disease Spreading Ability of Cotton Verticillium Wilt Carriers and Their Chemical Treatment"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 3, 1982 p 23

ABSTRACT: Verticillium wilt is a stubborn fungus disease of cotton. In 1978, the authors began to conduct a field experiment to determine the disease spreading ability of different carriers and effects of their chemical treatment but they were unable to obtain any obvious result in 3 years. In 1981, they changed their experimental technique and some preliminary results have been obtained. The 3 carriers are disease-carrying soil, stubble, and seeds. Chemical treatments include using sulfur, sulfur mixed with thiophanate, sulfur mixed with MBC, fumigating with chlorinated steam, mixing with ammonium carbonate, etc. Results indicate that all 3 carriers can cause an obviously high rate of diseased cotton plants, with the of diseased stubble the highest and that of diseased seeds the lowest. Treatment of diseased seeds with thiophanate is effective for controlling the disease, but the germination rate is also obviously reduced.

6248
CSO: 4011/95

AUTHOR: None

ORG: None

TITLE: "The 800 Million Farmers Need Planning"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 2, 5 Feb 82 p 5

ABSTRACT: This paper first reviews the progresses that have been made since the Third Plenum of the Party Congress, resulting mainly from the following 3 policies: (1) Redressing leftest errors and loosening up policies; (2) Raising the prices of agricultural auxiliary products; (3) A given quantity of grains are to be imported every year. It is definitely correct that farmers should be made rich;the question is how. Do whatever one is willing to do and depend upon the State to provide benefits just will not do. Under the direction of the State's plan, the attention of the farmers should be drawn to production development, to tap their internal potential, to improve operation and management, to practice scientific farming, and to raise economic benefits so that rural villages may become rich gradually in a healthy way. There is not the slightest doubt that agricultural economic activities must be brought into the State's planning track. Concretely speaking, such products as grains, cotton, and oil should have definite quotas to practice unified purchase. There should be a base quantity of purchase for farm auxiliary products. In this manner, the State and the farmers may know what to expect. The contract system should be gradually extended and strictly executed, to bring together the plans of the State and the production arrangements of farmers.

AUTHOR: ZHENG Siwen [6774 1835 2429]

ORG: None

TITLE: "Realistically Strengthening the Leadership of the Basic Level Organizations of Rural Villages"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 2, 5 Feb 82 p 9

ABSTRACT: Due to the establishment of various forms of system of responsibility in agricultural production, the vast number of farmers in China are greatly stimulated to pursue production, but in some places, as the leadership is loosened,the leadership groups of production teams begin to relax the discipline and even become paralysed. As a result many jobs have no one to be responsible for and various goals and policies of the party cannot be completed. The objective of the production responsibility system is to solidify the collective economy and is not to negate it. Hence, implementation of the production responsibility system does not mean that cadres of brigades and teams are to let down their burdens. The responsibilities and jobs of leaders of rural village organizations under the present condition are discussed, emphasizing the importance of strengthening these organizations.

AUTHOR: None

ORG: None

TITLE: "Effectively Improve Pig Production"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 2, 5 Feb 82 p 20

ABSTRACT: In China, pork amounts to 90 percent of the meat consumption in cities and rural areas alike. Pork is also one of the important auxiliary farm products for export. In the past several years, a series of mistaken policies of forbidding or limiting the practice of raising pigs have been abolished by the party and some concrete measures have been formulated to encourage the commune members to raise pigs. Since then, the total production of pork has been rising quickly until last year. Toward the end of last year, there was a reduction of the number of pigs in the sties or in the marketplace and the number of sows and hogs is also decreasing. The lax of leadership, the improper handling of the three-way relationship of the State, the collective, and the individual, less than strict management of the market to cause illegal slaughter of pigs, and many problems of purchase, processing, transport, storage, etc. are all factors contributing to the decline of the pig-producing industry. Some production teams distribute the feed-producing land to the members who plant whatever that will bring a greater profit.A series of realistic measures are proposed in the paper to correct these errors and to revive the pig-producing industry.

AUTHOR: None

ORG: Green Manure Group, Institute of Soil and Fertilizer, Chinese Academy of Agricultural Sciences

TITLE: "An Investigation of the Development of Green Manure Production in North China"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 2, 5 Feb 82 pp 45-46

ABSTRACT: The 15 provinces, cities and regions of North China have 390 million mu of cropland. Green manure was cultivated in 2.7212 million mu of these in 1979, amounting to a 52.4 percent increase over the acreage in 1975. At present, the green manure acreage remains only 3.27 percent of the cropland. The increase is, therefore, far from sufficiently fast. The main reason is the fact that green manure crops have not received the proper attention of the leaders, who have a fixed notion of depending upon chemical fertilizer to produce grains now. At present, soil fertility of the North is declining, in a great scale in many places and there is insufficient source of organic fertilizer while the condition for developing green manure is good. The many advantages of developing green manure crops and ways of cultivating them are discussed.

AUTHOR: None

ORG: Policy Research Office, Ministry of Forestry

TITLE: "Several Problems of Policy Concerning Forestry"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 2, 5 Feb 82 p 47

ABSTRACT: In the form of answers to 6 questions, this paper discusses the ownership of forests and ways of settling ownership disputes if any. (1) If the mountain and the forest belong to 2 different units, how are the [ownership] right certificate to be issued? The answer is that mountain and forest rights should be unified, but if not, separate certificates should be issued. (2) How is the problem of several units owning intersecting pieces of a mountain and/or a forest to be resolved? It should be resolved through voluntary exchange of these pieces on the basis of mutual benefit and equal value. If no exchange is possible, the current condition should be preserved. (3) Should forest land and sparsely forested land be given to the masses for keeps? No, not in large pieces, but a few trees may be sold to commune members at a reasonable price or a contract may be signed for the member to take care of the trees for a portion of the profit. (4) Who owns the mountains and forests that have never been brought into a commune? They are owned by the collective body and the member who has been taking care of them should be rewarded by the collective or be paid on a contract share profit

[continuation of NONGCUN GONGZUO TONGXUN No 2, 1982 p 47]

basis. (5) What is to be done for the mountains and forests belonging to the workers of towns and cities and the inhabitants of rural villages? If after collectivization, the collective acknowledged the ownership of these mountains and forests to be these individuals they should remain to be theirs. If these mountains and forests had been included in the collective they cannot be returned to the individuals [previous owners.] (6) How are disputes concerning ownership of mountains and forests to be resolved? Disputes should be resolved on the basis of the principle of strengthening solidarity and the principle of forest protection and development. Whether the dispute is between the State and the collective or between a collective and its members, the leader above the rank of the party in the dispute should supervise a negotiation between the parties. If the negotiation should fail to bring about an agreement, a judgment from the people's court should be requested. The court may dispense the necessary penalty to the party who willfully carries on the dispute and refuse to listen to either the leader or the court.

6248
CSO: 4011/76

AUTHOR: LUO Jinhua [5012 6930 5478]
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ORG: Both of Guangdong Provincial Research Institute of Agricultural Machinery

TITLE: "On Problems of Ways of Mechanizing China's Agriculture"

SOURCE: Beijing NONGYE JIXIE XUE BAO [JOURNAL OF CHINESE SOCIETY OF FARM MACHINERY] in Chinese No 4, Dec 81 pp 116-121

ABSTRACT: Agricultural mechanization is an important and complicated part of agricultural modernization. Its success, beyond its coordination with science, technology, and the national economy, depends also on correct ways of its development and the related policies and organizations. The paper expounds the following aspects which the author believes to be essential if agricultural mechanization is to succeed in China: (1) If grain production is one-sidedly emphasized, the source of capital is cutoff and mechanization cannot be materialized; (2) If South China is limited to crop production, there will be no economic benefit from mechanization; (3) The Chinese way of agricultural mechanization- using auxiliary industries to nurture mechanization; (4) A policy of investment, subsidy, and low-interest loan from the State for agricultural mechanization, including investment in machines used in grain production, food processing and storage equipment, energy research and supply, improvement of environment, aid for areas of natural disasters, and survey and research on domestic and foreign market supplies and demands.

6248
CSO: 4011/70

AUTHOR: WANG Tao [3076 3447]
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TITLE: "A New Sugar Crop: Sweet-leaf Chrysanthemum"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 1, 24 Jan 82 pp 22-23

ABSTRACT: The Jiangsu State-farm and Land Reclamation System has been extending sweet-leaf chrysanthemum [Stevia rebaudiana] over large acreages in recent years. It is a perennial of the genus Chrysanthemum, a native of the border mountains of Paraguay and Brazil, in S. America. Its leaves contain a glucoside and are 150 to 300 times sweeter than sugar cane. After the recent discovery of the harmful effects of saccharin, some countries have banned or limited its use, while the production of sugar cane and beets cannot yet satisfy the needs of the world. At present, this chrysanthemum is being extensively cropped in Japan, the USA, Paraguay, S. Korea, Romania, Thailand, etc. It was introduced to China from Japan in 1977 by the Nanjing Institute of Botany. Since then, it has been extended to 27 provinces, cities, and autonomous regions, including the Northeast and the Northwest. In 1979-80, a dried-leaf product was supplied by Jiangsu and Fujian for foreign trade. The 1980 experiment of the bureau demonstrates that its cost per mu is 75 percent of that of cotton but its yield is worth 150 percent. The paper includes a description of its culture techniques but only briefly the process of refining it into a sweetener.

6248
CSO: 4011/96

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TITLE: ["Growth of Cottonseed and Its Metabolism"]

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 6-8

ABSTRACT: The weight of a cotton boll includes the weight of fibers and that of the seeds. The latter is an important factor of the yield. This paper reports a study on the process of growth of cottonseed and their metabolic change regarding the sugar, nitrogen, fat, and fatty acid contents to provide a scientific basis for improving the cultivation technique and for selective breeding. The growth of cottonseed is found to be divided into 2 stages: that of the volume, which is generally fixed at 28 days after blooming, and that of filling, i.e. the weight. The key weight increasing period begins at about 4 weeks after blooming and ends at boll-opening. As it has been pointed out by previous studies, the branch and leaves in the vicinity of the boll contain a high level of sugar and nitrogen at the time of boll-opening; therefore, they should not be removed during trimming. The fat content of the seeds is generally above 34 percent and more than 54 percent of this is linoleic acid; therefore, cottonseed oil is a highly nutritious edible oil, if the phenol content is removed first. The residue cake is a good protein feed.

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ORG: Both of Institute of Crops, Shanghai Academy of Agricultural Sciences

TITLE: "Research on Interspecific Hybridization of Upland Cotton and Anomal Cotton"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 9-10, 30

ABSTRACT: The African anomal cotton (G. anomalum) belongs to the B_1 chromosome group (2n = 26). When it grows in the wild, it has very high resistance to bollworm and red spiders. Its fiber is extremely fine and strong. In the USA, its hybridization with upland cotton has produced male sterile material. Similar experiments in the USSR have produced hybrids of 65 chromosomes. In 1980-81, the authors crossed it with upland cotton (G. hirsutum) and doubled the chromosomes of the F_1 to obtain 18 interspecific hybrids. Although the F_1 is highly sterile, when colchicine solution is used to treat growth points of various locations of F_1 plants, fertility is restored to produce first generation seeds of the hybrid.

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CAI Yizhong [5591 1842 0022]

ORG: None

TITLE: "Research on the Rooting Ability of Rice Seedlings: Second Report: Effects of Temperature on the Rooting Ability of Seedlings"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 11-13

ABSTRACT: Effects of ecological types of rice breeds and seeding quantity on the rooting ability and the material conditions in the rooting process were reported in the first report of this study. In this, the second report, effects of temperature variations on the rooting ability of seedlings in Shanghai suburbs are studied. Results demonstrate that temperature sensitivity with respect to root development varies with the breed. In case of Guangluai, the most commonly used local breed of early rice, the minimum temperature requirement for rooting is 14.4-14.9°C. For Yuanfengzao, the second favorite, which is used in considerablely smaller acreages in that locality, the minimum temperature requirement is 15.6-18.0°C. Judging from the local statistical data on temperature variations, it is safe to transplant Guangluai after the 1st of May, but Yuanfengzao should not be transplated until the 11 May. In a cooler year, the latter may have to be delayed 5 more days.

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TITLE: "A Study on the Stability of Physiological Strain of Rice Blast Pathogens and the Classification of Breed Resistance"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 14-16, 20

ABSTRACT: A blast resistant breed of rice may gradually lose its resistance in the cultivation process. In the past decade, scientists here and abroad performed a great deal of work to investigate the stability of blast resistance and they have proved that the major factor determining blast resistance of a rice breed is the distribution of physiological strains of the pathogens. This paper reports an inoculation test of 7 local rice breeds with 31 representative and relatively stable strains. About 50 percent of these physiological strains were found to be stable continuously for 2 years and about 70 percent are basically stable in one year. It appears that the development tendency of blast may be predicted by the increase or decrease of the locally dominant toxic strain. This is, however, only one factor for the occurrence of a severe incidence. An unfavorable weather condition is the leading factor.

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TITLE: "An Experiment to Compare the Growth Conditions of Hybrid Groups of Shanghai White Swine"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 28-30

ABSTRACT: An experiment was carried out using Shanghai White Swine as the mother, and 5 other breeds as the father to compare the rate of lean meat of the hybrids. The piglets, 6 of each hybrid group are fed the same way for 4 months before they are slaughtered for comparison. The Shanghai White-swine x Duroc hybrids are found to have the highest rate of lean meat. The rate of lean meat of hybrids of all the other groups is higher than that of Shanghai White-swine x Shanghai White-swine, howver. Under the current condition of short supply of Duroc hogs, the other breeds should be used to serve the purpose of improving the lean meat rate of pigs. Effectiveness of crossing the hybrid with another lean breed is to be studied in the future.

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ORG: Both of Technology Extension Station, Shanghai Municipal Bureau of Agriculture

TITLE: "Preliminary Summarization of Early Rice High Yield Experiences"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 5 Apr 82 pp 43-45

ABSTRACT: In 1981, Shanghai suburbs planted 1.52 million mu of early rice, with an average yield of 804 jin/mu, amounting to an increase of 17.9 percent over the yield of 1980. Judging from the yield structure, the increase is accomplished through an increase of the number of spikes and grains. The major experience is improving and perfecting the joint production responsibility system, which causes the commune members to feel positive about carrying out various cultivation measures. These measures include timely and sparse seeding to cultivate strong seedlings with tillers [at the transplanting time;] dry plowing and deep application of basic fertilizer; early transplanting of all needed seedlings; and using promoting and controlling measures to guarantee early development, stable growth, and ripening on live and green stalks. Detailed data concerning these measures and the excellent results are reported.

6248
CSO: 4011/92

AUTHOR: MA Wenrui [7456 2429 3843]

ORG: First Secretary of Shaanxi Committee of Central Communist Party

TITLE: "Bringing Out the Spirit of Yanan to Construct a Better North Shaanxi"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 pp 5-7

ABSTRACT: Although in 1968-78 the State sent to Northern Shaanxi more than 700 million jin of grain, as a result of devastation by the "cultural revolution" and leftest ideas, the people of Northern Shaanxi still did not have enough to eat, wear, or spend. The average food ration was 200-300 jin/person and 30 percent of the farmers suffered hunger. In 1979, after the historical turnabout achieved by the 3rd plenum of the party congress, the region experienced continuous bountiful harvests, in spite of the continuous natural disasters of drought, flood, pest, hailstorm, etc. and yield increases have been sustained year after year. Measures adopted by the party to produce such overwhelming changes in the short period of 3 years (1979-81) are reported. Targets set for every year until 1985 and beyond include the realization of a large animal, 9 mu of woodland and grassland, 800 jin of grain, and 5 sheep for every person. The region has rich resources and a great potential. Reasonable development and utilization are being awaited.

AUTHOR: None

ORG: None

TITLE: "New Ways of Extending Agricultural Technology"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 pp 14-15

ABSTRACT: Following the system of responsibility in agricultural production, the system of technology contracting is another new event. Most recently, the Chinese Scientific and Technical Association called A Conference for Exchanging Experiences of the System of Agricultural Technology Contracting (Including Diversified Production). This paper reproduces 3 reports to that conference, delivered by Zhangmu Commune Science Popularization Association of Yulin County, Guangxi Province, the Tinggong Commune Science Association of Xiayi County, Henan Province, and the Shiyan Commune Science Association of Ningan County, Heilongjiang Province, to illustrate the many successful stories heard at the conference.

AUTHOR: GUO Zhixian [6751 1807 6343]
ZHANG Liming [1728 0448 6900]

ORG: Both of Shaanxi Provincial Bureau of Water and Soil Conservancy

TITLE: "Water and Soil Conservancy Cropping Technique Should be Extended in the Middle Reaches of Huanghe"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 p 16

ABSTRACT: The middle reaches of Huanghe form the most seriously erroded region of China. The problem can be resolved only through comprehensive soil, water, and afforestation measures of water and soil conservancy in the entire region. In the 50's and 60's, various water and soil conservancy cropping techniques were extended in many places of the loessial plateau, such as Gansu and Northern Shaanxi to produce very good results. There are many such cropping techniques. The most common ones include horizontal contouring of the slopes, constructing ridges in fields, digging parallel ditches to reduce runoff, etc. At present, these cropping techniques have been established for 40 million mu of cropland of the middle reaches of Huanghe, but there are 120 million mu of fields on mountainous slopes yet to be treated. The paper does not include descriptions of the condition of erosion. It only discusses the advantages and the possibilities of stopping erosion in that region.

AUTHOR: None

ORG: None

TITLE: "Condition of Supply, Demand, and Development of Several Major Farm and Animal Products"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 p 29

ABSTRACT: This paper provides, briefly, the supply, demand, and development data of grains, soybean, rape seeds, tobacco, ramie , and pork. The data cover roughly the years of 1979, 1980, and 1981, but not in an organized manner. Regarding grains, the annual consumption is about 650 jin/persons at present. If this level is to be maintained, with the natural yearly increase of population, an increase of production of 10,000 million jin a year is necessary. Regarding soybean, with the 40 percent reduction of acreage, the yield is about 20 percent less (1981). The State has spent 120 million US dollars to import 800 million jin a year but the demand is still not met. Regarding rape, the acreage has been increased to 19,000 thousand mu in the past 3 years, but the oil is too expensive and of too low a quality for export. With respect to tobacco, the acreage is 3,080 thousand mu larger in 1981 over that of 1980, and expanding in spite of the decision of Heilongjiang Provincial Committee to reduce it. With regard to ramie, the State is unable to develop spinning and weaving facilities; therefore, there is a backlog. The pig population of 1981 is 15,400 thousand less than that of 1980; some provinces are beginning to adopt policies to improve the situation.

AUTHOR: JIN Minxin [6855 0682 0207]

ORG: General Bureau of Animal Husbandry, Ministry of Agriculture

TITLE: "Hold Fast Some Key Measures to Develop Swine Production"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 pp 41-

ABSTRACT: For the purpose of promoting the development of the industry of raising pigs and changing the current situation of production decrease, the provinces, cities, and autonomous regions, heeding the notification of the State Council, are adopting effective measures to resolve some key problems. Measures being adopted include the following: (1) A policy of rewarding pig production: Zhejiang Province resolved that production teams may subcontract pig-raising jobs with feed to families who may sell pigs to the State directly; if no pigs are produced, the feed must be delivered back to the State; (2) Zhejiang Province requires the various areas under her jurisdiction to increase the current 800 thousand hogs and sows to one million. Shaanxi Province requires that the number of sows must amount to 8-10 percent of all herds of swine while the number of hogs must be 4 percent of the number of sows. These measures are to guarantee the supply of piglets. (3) Three-year contracts are to be signed by the departments of food products to purchase a given number of pigs from designated production teams who may contract the jobs to families. After fulfilling the contract responsibility, as it is clearly stated on the contracts, the surplus pigs [if any] may be slaughtered and consumed by the owners.

AUTHOR: None

ORG: Rural Purchase and Sale Bureau, Ministry of Grains

TITLE: "State's Purchase Quota May not be Fulfilled by Grains Bought From the Marketplace"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 3, 1982 p 45

ABSTRACT: It has been reported that as some production teams are exercising their right to self-determination, they begin to consider the size of economic benefit of themselves and go to the marketplace to buy grains to fulfill their grain sale quota distributed by the State. The paper attempts to explain the bureau's disapproval of such a practice. The reasons are stated as follows: (1) The economic activities of production teams must follow the directive of the State's plan; (2) The policy of not overlooking grain production while developing multiple operations must be seriously implemented; (3) Production teams must guarantee the fulfillment of the State quota of grain purchase; (4) The marketplace [the prices] and the grain production must be kept stable. If production teams and commune members were allowed to buy grains from the market to fulfill their quotas, the price of grains will necessarily rise and the prices of all other related products will fluctuate as well. It will be extremely difficult to arrange the livelihood of commune members. This is unfavorable for the State, the collectives, and the individuals.

6248

CSO: 4011/77

AUTHOR: LI Zhengfeng [2621 2973 7364]

ORG: Non

TITLE: "On the Reasonable Technique of Irrigation"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 3, 1982 p 2

ABSTRACT: Scientific farming includes reasonable irrigation. If water is not applied scientifically in agricultural production, there will often be unfavorable results. For example, in the early 60's, in some provinces of China, such as Henan and Shandong, in some irrigation regions where the water of the Huanghe was drawn, a gigantic quantity of water was applied to result in soil salinization and a large scale yield reduction of crops. This paper explains the technique of reasonable irrigation in terms of the following: (1) There must be a water use plan to apply water on the basis of the moisture requirements of the crops, for example 300-400 m^3/mu for wheat, 250-300 m^3/mu for corn, and 300-450 m^3 for cotton. It is definitely not true that the more water is applied the more is the yield. (2) The time for water application should be determined by the variation of the weather. For example, in 1980, there was very little rain in Jul and Aug in Xinxiang Prefecture of Henan. It appeared that the wheat crop would suffer, and as the technique of weather forecast was not mastered some areas applied water. On the 8th and 9th of Oct, 50 mm of rain fell continuously to result in utter disaster in those areas.

AUTHOR: CHEN Zhichang [7115 1807 2490]

ORG: None

TITLE: "The 'Sparse, Few, and Steady' Culture Technique for Early Rice"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 3, 1982 p 4

ABSTRACT: The technique of "sparse, few, and steady" means sparse seeding to obtain strong seedlings, transplanting few seedlings in a unit area, and steady applications of fertilizer and water to protect the leaves and promote the roots. With this technique, generally speaking, one mu of seedbed will produce enough seedlings for 5-8 mu of paddies, amounting to a reduction of 40-60 percent, compared with the seedbed use of the common culture technique. About 10-12 jin of seeds are saved for the yield of every 1,000 jin of rice grain, as well as a saving of 0.46-2.71 work-day and 0.46-7.68 yuan of the cost. For each mu, the yield increase with this technique may reach 40-122 jin. This culture technique and its advantages are described.

AUTHOR: WANG Shizhi [3769 0013 0037]

ORG: None

TITLE: "Growth Development Principle of Wheat and Its Field Management"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 3, 1982 pp 5-6

ABSTRACT: The meteorological conditions of China's wheat production regions of the south and the north vary a great deal. Even within a single region, the condition of the wheat crop will vary with the different breeds used, the different external conditions of the weather, the soil, etc. and the different cultivation measures. The field management for wheat should,therefore, be determined by the conditions of an individual locality. The common goal is to obtain strong seedlings, however. Four standards are proposed to define strong wheat seedlings: broad and green leaves, normal shape of plants, timely growth, and tillering in stages. Each region should set its own concrete standards for strong seedlings according to the concrete conditions of that locality, for the purpose of applying proper and timely production measures for promoting or controlling the growth of the plants to meet the requirements of these standards. The various expressions of strong seedlings, regardless of breeds and other differences of conditions, are described separately in terms of stages of growth and development, including the young seedling stage, the stage of organ formation, etc. Indications of excessive growth and deficient growth are described for every stage, with discussions of proper countermeasures.

AUTHOR: LU Wenliang [7120 2429 2856]

ORG: None

TITLE: "Another Haploid Breeding Method--The Corm Barley Technique"

SOURCE: Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 3, 1982 p 31

ABSTRACT: Haploid breeding has become very common in experiments in recent years. It is a technique of obtaining haploid plants from anther culture, such as the technique introduced in a paper in No 1, 1978 issue of this journal. The present paper introduces a different technique which has become successful in some countries [not specified in the paper] of the world. This is the technique of using common barley as the mother and corm barley as the father. After hybridization, all chromosomes of corm barley are eliminated so that the resultant embryo contains only a set of chromosomes belonging to the common barley. The induction rate of this technique is much more stable than the anther technique. According to experimental data, an ideal hybridization grouping may thus be obtained. The concrete procedure of this new technique is described. This paper does not mention any experiment or experimental data carried out in China, however.

6248
CSO: 4011/78

AUTHOR: WEN Jiang [3306 3068]
YU Changsheng [0060 7022 3932]
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ZHOU Minghui [0719 2494 6540]
LIU Ruizhi [0491 3843 5347]

ORG: All of Research Institute of Animal Husbandry and Veterinary Medicine, Linfen Prefecture, Shanxi Province

TITLE: "Eradication Program for Enzootic Pneumonia of Pigs"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 6, 20 Dec 81 pp 29-32

ABSTRACT: According to a statistical report of Shanghai, of the 3 million pigs marketed, due to swine pneumonia, piglets' weight gain is reduced 14-23 percent daily over a 65-day period; at an incidence of 20 percent, 600 thousand piglets in a year have to be fed a month longer due to this disease, an equivalent of a meat loss of 100 thousand pigs. In serious enzootic incidents, a large number may also die. Based upon the theory that the infection is caused by a pneumonia mycoplasmatales existing in the swine respiratory system only and the fact that once they are exhaled, they lose their pathogenicity in 48 hours at 28°C, an eradication program is devised by the authors (1978-79) to identify diseased piglets quickly by x-ray, to isolate the diseased ones from the healthy ones, an accelerated treatment of

[continuation of XUMU YU SHOUYI No 6, 1981 pp 29-32]

the diseased with sodium humic acid, Chinese traditional medicine, antibiotics, etc. injecting the healthy ones with terramycin-almond oil for prevention, and improving feeding and management. Piglets brought from outside areas are screened with x-ray before allowing them to join the healthy ones, etc. By the time this paper was written (Nov 81) no new cases of this disease had been discovered among the healthy ones.

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END

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METEOROLOGY

QIXIANG [METEOROLOGICAL MONTHLY], No 2, 10 Feb 82................ 43

I. GENERAL INFORMATION

NATIONWIDE BIRD PROTECTION PROGRAM URGED

'Bird Appreciation Week'

Beijing GUANGMING RIBAO in Chinese 6 Feb 82 p 1

[Article: "National Bird Appreciation Week Activities Will Begin This Spring, State Council Approves Report by the Ministry of Forestry and Departments Asking To Strengthen Protection of Birds"]

[Text] The nationwide bird appreciation week activities will begin in the spring of this year. This is one of the important measures to protect birds included in the report by eight departments including the Forestry Ministry and approved by the State Council for nationwide implementation.

The Ministry of Forestry, the Foreign Ministry, the Ministry of Foreign Trade, the Ministry of Finance, the Leading Group for Environmental Protection of the State Council, the State Urban Construction Bureau, the Chinese Academy of Sciences, and the Central Committee of the Chinese Communist Youth League have proposed in their joint report submitted to the State Council and entitled "Enquiry Concerning the Implementation of the Mutual Agreement on the Protection of Chinese and Japanese Migratory Birds in Strengthening the Protection of Birds," that the following work conscientiously be carried out:

1. Propaganda and education should be launched in a big way. The week from the end of April to the beginning of May should be designated as "Bird Appreciation Week" (actual time to be set by the provinces, cities, autonomous regions). During Bird Appreciation Week, reporting conferences or discussion meetings can be organized. Experts can be invited to lecture. Youths can be organized to go to the fields, nature preserves, regions where hunting is prohibited, and parks to observe birds, and they can be encouraged to hang up man-made bird cages to protect and lure beneficial birds and to conduct such activities to establish the concept that "everyone has the responsibility of protecting birds" and to gradually develop a habit of appreciating and protecting birds.

2. Protection and management should be strengthened and uncontrolled trapping and hunting of birds must be prohibited. Rare birds to be protected under state laws must be strictly protected. No unit or individual

can trap or hunt, sell or buy and transport protected birds without approval by the administrative forestry departments. Hunting should be prohibited in cities and towns, industrial and mining areas, nature preserves, nonhunting zones, tourist regions, scenic areas and parks. Such hunting devices and methods as the gathering of eggs, destruction of nests and the use of poisons, blasting shells (firecrackers), and air rifles that destroy the resources of birds should be prohibited.

3. More areas should be zoned as nature preserves for migratory birds. It is suggested that the main propagation grounds, the wintering grounds, the main resting grounds along routes of migratory birds, especially islands, lakes, swamps, beaches that have important value in protecting migratory birds within the nature preserves of the nation and the provinces, cities and autonomous regions should be zoned as natural sanctuaries. Those regions that should be protected but for some reason cannot be zoned as a nature preserver can be zoned as nonhunting regions.

4. Tagging work should be launched. Tagging has important meaning in the protection and the rational utilization of migratory bird resources, in scientific research, national defense, plant protection and prevention and control of diseases. Since 1899, the world has tagged over 30 million birds. Nations in east Asia tagged over 1,200 species of migratory birds from 1963 to 1970. Tagging is an indispensable part of implementing the Sino-Japanese bird protection agreement. It will be studied and handled by the Ministry of Forestry together with the Chinese Academy of Sciences.

5. Procurement and export control of bird products should be strengthened. Economic birds and their products are important export materials. Production, procurement and exporting should be organized according to plan and under the prerequisite of not destroying resources. All birds to be protected under state regulation and not approved for trapping by the forestry departments cannot be procured by the departments of supply and marketing, foreign trade, urban construction and flower and bird shops (companies), specimen companies (factories) and zoos; and foreign trade departments must not export them.

Commentator on Bird Protection

Beijing GUANGMING RIBAO in Chinese 5 Feb 82 p 1

[Article by commentator: "Protection of Birds Must Not Be Delayed"]

[Text] Birds are a part of nature and they are a precious resource. Protecting birds has an important significance in maintaining the natural ecological balance. Therefore, protecting and rationally utilizing the resources of birds have become international symbols used to measure the natural environment, the scientific culture and civilization of society, a nation and a region.

In today's efforts to advocate the building of spiritual civilization of socialism in a big way, the approval by the State Council of the enquiry concerning strengthening the protection of birds submitted by the eight departments including the Ministry of Forestry has great significance.

Our nation has 1,175 species of birds, a nation with the most number of species of birds. Our nation can be considered to be "especially endowed." Our nation has 56 species of wild chickens, constituting 1/5 the total number of wild chickens in the world. The whole world has 15 species of cranes. Our nation has nine of them, and among these, the Danding crane and the black neck crane are mainly found in our nation. Yet, our work in the protection and the utilization of the resources of birds falls far behind many nations. The result of a long period of uncontrolled trapping and hunting has forced some rare birds and hawks and vultures to become nearly extinct. This situation should be changed within a short period with an all-out effort.

To protect birds, we must first appreciate birds. Every person in the whole of China should appreciate birds and should cultivate the virtue of appreciating birds. The State Council has decided to launch "Bird Appreciation Week" activities throughout the nation. This is a very important measure. Each department must carry this out. Scientific workers have the unshirkable duty to propagate knowledge about birds. Middle and elementary schools, Chinese Communist Youth League and young vanguard teams must shoulder the heavy responsibility in this regard. They should teach knowledge about birds to the younger generation, and organize and lead them in launching activities to protect beneficial birds. The activity of "Bird Appreciation Week" should be carried out year after year so that a new virtue of appreciating birds and protecting birds will surely be established among the people of the whole nation.

There should be an appropriate increase in the number of nature sanctuaries for birds. Japan has 1,000 bird sanctuaries. Up to the present, our nation has only zoned 10 such regions. It goes without saying that such a number is far too small for such a nation like ours which is so large.

Artificial cultivation of economic birds needs to be strengthened. Foreign nations have created pheasant farms and have raised pheasants on farmland to eliminate the seeds of weeds and harmful insects. All of these things are worth learning. The great lag in the work of artificially raising pheasants in our nation must be urgently changed. Luring beneficial birds also must be highly emphasized and this work should catch up quickly. According to information on Shandong Province, luring grey magpies to the forests can effectively prevent the occurrence of insect pests. Uncontrolled trapping and hunting must be quickly stopped. According to complaints, some factories in at least two industrial sectors are producing air rifles and the number of such guns produced within a year is in the millions. This situation has worried some zoological workers. With such continuous production of hunting weapons, how can uncontrolled trapping and hunting be stopped? The supply and marketing units, foreign trade, flower and bird companies, and specimen factories should all abide by state regulations and conduct business, procure and export birds within the allowable limits. Units and individuals who violate such state regulations and destroy the bird resources must be investigated regarding their responsibility. Units and individuals who have realized outstanding achievements in the protection of birds must be praised and rewarded.

Eight Protection Zones

Harbin HEILONGJIANG RIBAO in Chinese 13 Feb 82 p 4

[Article: "Our Nation Has Zoned Eight Nature Preserves for Birds, They Include the Zalong Nature Preserves in Heilongjiang"]

[Text] According to the latest information provided by the Ministry of Forestry, our nation has zoned eight nature preserves mainly for the protection of birds.

These eight preserves are: Niaodao Nature Preserve in Qinghaihu in Qinghai, Tianehu Nature Preserve in Bayanbulak in Xinjiang; Luyashan Preserve in Shanxi; Pangguangou Nature Preserve in Shanxi; Laotieshan Shedao Nature Preserve in Liaoning; Zalong Nature Preserve in Heilongjiang; Tongyu Nature Preserve in Jilin; Zhenlai Nature Preserve in Jilin. The total area of the 8 preserves cover over 360,000 hectares.

Besides the nature preserves mainly to protect birds, many regions have also zoned areas where hunting is prohibited also to protect birds. Throughout the nation, there are 85 other general nature preserves, most of which also serve to protect birds.

9296
CSO: 4007/248

INCREASE IN RURAL, URBAN PURCHASES OF CONSUMER GOODS NOTED

Chengdu SICHUAN RIBAO in Chinese 30 Jan 82 p 1

[Article: "All-Around Increase in Amounts of Food, Clothing, and Goods For Daily Use in City and Country Markets Throughout the Country During 1981"]

[Text] State Statistical Bureau recently provided data shows that in 1981 goods sold in city and country retail markets in China--food, clothing, and items for daily use alike--continued increases in quantities sold.

According to the statistics, in 1981 total retail sales of social commodities was 235 billion yuan, a 21 billion yuan increase over 1980 for a 9.8 percent growth (a growth of 7.7 percent following deduction of retail commodity price rises). Comparison of total retail sales of social commodities last year with 1978 shows a 79.14 billion yuan for 50.8 percent increase. This resulted from increased earnings by urban and country people following implementation of various programs and policies in the wake of the 3rd Plenary Session of the 11th Party Central Committee.

Analysis shows emergence of several new changes in city and country markets during 1981. The extent of rural commodity retail sales increase was larger than for cities. In 1981 city and town commodity retail sales amounted to 102.6 billion yuan, an eight percent increase over 1980; rural commodity retail sales amounted to 132.4 yuan, an 11.3 percent increase over 1981.

Sales of commodities for daily use were greater than sales of food or clothing. In 1981, market sales of 15 major items for daily use including matches, soap,sewing machines, wristwatches, bicycles, and pencils increased 10.5 percent over 1981, sewing machine sales increasing 28 percent, bicycle sales increasing 17.9 percent, and television set sales increasing 44.4 percent. Sales of 10 major food items including grain, edible oil, meat, eggs, and sugar showed increases of only 4.5 percent, while sales of 10 major clothing items including cotton cloth, chemical fiber cloth, and woolens increased by only six percent. This situation shows that the purchasing power of the people has already begun to shift toward high quality, durable consumer goods.

The amount of commodity sales through all circulation channels showed all-around increase, and quantities of goods retailed through supplementary channels showed greatest extent of increase. In 1981, businesses owned by all the people (including the beverage industry) had retail sales 3.5 percent greater than in 1980. Retail sales by collectively owned businesses increased 34.2 percent. Retail sales by the 1.83 million individual households authorized by industrial and commercial administrative departments increased 2.2 fold. Commodity sales by industrial units themselves also increased by 31.5 percent over 1980. Volume of business transacted in urban and rural country fair trade for the year amounted to 29 billion yuan, a 23.2 percent increase over 1980.

The State Statistical Bureau acknowledged the existence of problems in markets at the present time, one of which was that increased sources of supply of retail goods has still been unable to catch up with increased purchasing power demand for social commodities. Vigorous development of consumer goods production must continue, with prompt organization of procurement and expansion of sources of supply. Secondly there has been a tendency toward increase in unmarketable goods in commercial storage in the country. Forces must be organized for conscientious inventorying of overstocked goods, and their sale urgently promoted. Third is the fairly serious incidence of illegal conduct in speculation and profiteering in markets. Effective measures must be taken to put a stop to it.

9432
CSO: 4007/285

ATTENTION TO LAMB, KID MEAT PRODUCTION URGED

Lanzhou GANSU RIBAO in Chinese 21 Feb 82 p 1

[Article by Wei Huaifang [7614 2037 2455] and Ge Wenhua [5514 2429 0553]: "A New Way To Develop Lamb and Kid Meat Production"]

[Text] In livestock production and in business and foreign trade, the meat from lambs or goats slaughtered before they are 1-year old in the year of their birth is termed lamb or kid meat. Lamb and kid contain much lean meat, little fat, little of the strong smell of mutton or goat, have abundant nutrients, are delicious and juicy, and are readily digested and absorbed. Formerly in the raising of lambs and kids, emphasis has been concentrated on production of mutton from sheep, and the kid meat production potential provided by goats which make up 38 percent of the combined sheep and goat population, particularly from the fine hybrid variety milk goats, remained to be tapped.

Experiments carried out by the animal husbandry department of Gansu Agricultural University at the Yangxiaba Multiple Test Site in Wuwei Prefecture on "Results in Shaneng Milk Goat Hybrids in Improving Local Goats" showed that not only was the quantity of milk from hybrid goats greatly increased, but also that, happily, hybrid goat meat production also remarkable increased. At age 1-month, first generation Shashi hybrid bucks were castrated. At age 7 or 8 months, their live weight averaged 33.8 kilograms, and their dressed weight averaged 16.8 kilograms. Fats and oils weighed 2.7 kilograms, for a dressing percentage of 49.8 percent. Native varieties castrated at the same age and under the same conditions averaged live weights of only 22. 4 kilograms, dressed weights of 10.5 kilograms, and fat and oil weights of 1.4 kilograms, for a dressing percentage of 46.9 percent. The former had a live weight averaging 50.9 percent more than the latter, a dressed weight averaging 60 percent higher, an oil and fat weight 92.86 percent higher, and a dressing percentage 3 percent higher.

Nowadays the people of many country's in the world want and favor the meat of young animals rather than that of adult animals, and the demand for lamb and kid is particularly noticeable. As a result the price of lamb and kid on the international market is double that for goat and mutton. In addition to the aforementioned meat characteristics, because of the rapid growth of lambs and kids in the first several months following birth, their efficiency in using vegetable protein feeds is from half to double that of adult sheep and goats. Raising of lambs and kids requires only their mother's milk and pasturing on grassland, with no feeding or little feeding of concentrated feeds. Animals slaughtered before the onset of winter means a saving both in fodder, feed and work, and also prevention of deterioration by the following spring; it lowers costs, increases the return from feed, and has many economic benefits. In addition, the valuable pelts in the sheep raising industry generally come from the young of between 6 and 9 months old. It is precisely for this reason that some countries advanced in the raising of sheep have entered into specialized production of fatted lambs (6 to 9-month old lambs that have been fattened are called fatted lambs). In New Zealand, for example, 73.7 percent of all the sheep slaughtered in 1975 were fatted lambs, and exports of lamb were 3 times that of mutton. Australia's 1974 output of fatted lamb amounted to 61.6 percent of total output of lamb and mutton. In the American market, lamb and fatted lamb account for 94 percent of total sales of lamb and mutton.

Mutton and goat are important meats eaten by China's people, and they are the principal meat eaten by many national minority peoples in particular. Gansu Province's average consumption of mutton and goat is not great, and one might say that mutton and goat are truly rarities. If a portion or most of the province's almost 4 million head of goats were to be improved through hybridization, the hybrid ewe's used to supply milk, and the bucks castrated and slaughtered for their meat in the same year, not only would this help raise the people's nutritional levels, but it would also increase the earnings of the broad masses of herdsmen. This is a new way to produce lamb and kid meat, which should arouse the serious attention of units and leaders concerned.

9432
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PROPER MANAGEMENT TO INCREASE WINTER CROP PRODUCTION

Guangzhou NANFANG RIBAO in Chinese 14 Feb 82 p 1

[Text] Zhanjiang Prefecture Strives To Reap Bumper Harvest in Winter Yams

The majority of the communes and brigades in Zhanjiang Prefecture suffered considerable losses in grain production during the latter part of last year as a result of floods. In order to make up for the loss caused by the disaster and to tide over the lean months in spring, the various counties mobilized the masses to engage in the production of winter crops. Throughout the prefecture, 2.761 million mu of land was planted to winter sown crops, or 308,000 mu more than the previous year. Of this acreage, 1.92 million mu was planted to such grain crops as winter yam, or 157,000 mu more than the previous year. In Yangchun County, which had suffered heavy damage, 120,000 mu was planted to winter grain crops, or twice the acreage for the previous year. Up to the present, fertilizers have been applied once or twice to winter yams throughout the prefecture and the soil has been reconditioned. The yams are thriving and a bumper harvest may be expected.

Winter Sown Wheat Thrives Well in Chao'an County

In Chao'an County this year, 97,500 mu of winter sown wheat has been planted, an increase of 46 percent over the figure for last year. The wheat is thriving well because it was planted early and was well managed.

In the planting of winter wheat in Chao'an County this year, a superior variety of seeds was used, base fertilizers were applied before planting and the soil was tended with care. Furthermore, the seeds were sown from 7 to 10 days earlier than in previous years. In view of the short span which characterizes the fertilization and the growth period of wheat in the various areas, tillering fertilizers [0433 5649 5142] were applied and reapplied during the early stage to promote its early growth. Fertilizers to strengthen roots and stalks were skillfully applied in the intermediate and late stages. At the same time, water was applied scientifically, a forecast was made of insect pests, chemical weed killers were used extensively, and insects and rats were exterminated to ensure the normal growth of wheat.

Wuhua County Does Well in Tobacco Production

Wuhua County, taking advantage of the winter lull and making use of arid areas, planted 31,100 mu of tobacco last winter.

In order to do a good job in tabacco production, the concerned departments in the county paid attention to the implementation of the tobacco purchasing policy and signed a number of contracts for the sale and marketing of tobacco. The supply and marketing cooperatives of the county also organized 200 workers in tobacco production to go to the various farm families to instruct them on the planting of tobacco and the management of the operation. Benefiting from the lessons they had learned in the past of the extensive damage done to the tobacco seedlings due to frosts and the failure to take proper preventive measures, the various communes and brigades planted tobacco ahead of time last winter. When the tobacco was solidly rooted, fast-acting fertilizers were slowly applied. When winter frost came, antifrost covers were used, enabling the tobacco plants to survive and to flourish.

Shaoguan Prefecture Strengthens Rape Cultivation Management

Last winter, Shaoguan Prefecture, taking advantage of the winter lull, planted 393,000 mu of rape, or 10,000 mu more than the previous year. Yingde County, which has the largest acreage, planted 183,000 mu of rape, exceeding the quota set by the prefecture by 147 percent. Because various locations in the prefecture have implemented widely the production responsibility system of either assigning production to each household in return for fixed levies or fixing output quotas to individual able-bodied laborers, the enthusiasm on the part of the cadres and the masses for planting and managing the rape have been considerably heightened. The three brigades of Banpu, Boxia and Sanjiaokeng of the Qiaotou Commune in Yingde County, taking advantage of the winter lull, planted rape with planted areas reaching 7,000 mu. Since the enforcement of the production responsibility system, commune members attended to their duties assiduously, applied adequate amounts of fertilizers before planting and erected bamboo fences along the roadsides to prevent the animlas from trampling on the vegetables. At the present time, winter sown crops in the farmland of many areas in Northern Guangdong are doing extremely well.

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BAMBOO CAGE FISHING IN RESERVOIRS DEVELOPED

Guangzhou NANFANG RIBAO in Chinese 9 Feb 82 p 2

[Article: "Thirty-five Counties in Guangdong Develop Fishing in Reservoirs"]

[Text] Since 1977, 35 counties in our province have launched a drive to use bamboo cages for fishing in 79 reservoirs with promising results. The cages are hoisted every day or every few days. The catch usually ranges from several hundred to 10,000 jin. The cost is 50 to 80 percent lower than that of using other fishing gear.

Previously, fishing in reservoirs was done mostly by using gill nets, trawl nets, electricity and by draining the reservoirs. High in cost and low in productivity, these methods do great damage to resources. Furthermore, because too large a quantity of fish is caught within too short a period of time, the rate of spoilage is high. In 1973, the Zhujiang Marine Products Research Institute, working on the principle of using nets made of bamboo slats for fishing, devised a trap in the shape of a cage measuring 40 meters in length and from 5 to 10 meters in height and width. The point of entry is shaped like a trumpet while a funnel-shaped net is fixed to the throat, making it easy for the fish to get in and difficult to get out. When this device had its test run at the Shahe Reservoir in Kaiping County, the comrades at the reservoir discovered that after a school of fish had entered the funnel-shaped net, it became so congested that a number of fish turned tail and escaped. Thereupon, the comrades at the reservoir affixed a tapered net at the point of entry so that once they had entered the net, the fish were ready to be taken.

The best time for using this type of net for fishing is from April to October when it is warm and rainy and when the fish customarily go upstream in search of food or to look for spawning grounds before going back downstream to rest. By placing this type of net where the fish make their return run or where they go in search of food, it would not be necessary to drive them into the net or to assign somebody to watch them, since the fish would enter the net of their own accord. The net is raised every day or every few days. This operation requires two boats and from two to four workers to haul in the nets. If necessary, the cage-shaped nets may also be used as casting nets.

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MAKING NEEDED MATERIALS AVAILABLE TO PEASANTS NOTED

Guangzhou NANFANG RIBAO in Chinese 2 Feb 82 p 2

[Article: "How the Industrial and Commercial Departments Can Meet the Peasants' Demand for Production Materials"]

[Text] At a recent meeting of the province on the supply of agricultural production materials, the managers of production companies from the various areas expressed the unanimous view that agricultural production had reached new heights in the rural areas, that the peasants had the money to buy urgently needed production materials, that the industrial and commercial departments must pay serious attention to this new situation and that they must make available to the peasants production materials as well as consumer goods.

According to the findings of the concerned departments, the peasants are eager to spend the money they have to buy the production materials they need, especially those from areas where the agricultural production responsibility system was implemented at an early date and which have had bumper harvests. There is not only a sharp demand for production materials, but the size of the demand has also assumed increasing proportions. For example, the sale of agricultural production materials by the Lantang Commune in Zijin County totalled only some 390,000 yuan in 1979, whereas from January to September, 1981 alone, the sale of such goods exceeded 760,000 yuan. Among the production materials sold, the amount of chemical fertilizers doubled over that before the enforcement of the production responsibility system. Following the implementation of the system, the Chang [0960 1122] Commune in Lechang County bought some 9,600 pieces of medium and small-sized farm implements during the first eight months of last year whereas only 6,400 pieces were bought during the same period the previous year, showing an increase of 48 percent.

Another new development in the market for agricultural production materials is that the peasants are more concerned over the economic benefits of investing in production and in purchasing production materials, commonly demand that these materials be economicall and suitable and that they be of a high quality. There is, for instance, a sharp increase in the demand for chemical fertilizers. According to statistics, the use of chemical fertilizers on each mou of paddy field in areas where the application of fertilizers was already of a high level came to over 200 jin. Even in areas originally low in the usage of chemical fertilizers, the rate of usage has reached 80 or 90 jin, in general, an increase of 20 to 30 jin. There have also been new changes in the kind of fertilizers in demand, such as the demand for a larger supply of urea and potassium. In 1978, less than 20,000 tons of potassium were used in the province whereas in 1981, the amount had increased to 130,000 tons. In 1978, only 800,000 tons of phosphate were used whereas in 1981, the tonnage had reached 920,000. There has also been a greater demand for a wider variety of medium and small-sized farm implements, such as dragon-bone water lifts, old-style threshing machines, one-man threshing machines and funnels, which had long fallen into disuse and have now become hot-selling items. Other new products such as plastic urinals and pots for seedlings are also in great demand by the peasants. As for oxen used for farming, the demand in some areas is for small oxen and buffaloes which sell for between 300 to 500 yuan and which are most suitable for exclusive use by single families because they can be used to till the land during the planting season and to carry burdens during the off season. In 1980, the Jiujiang Production Brigade of the Shihgu Commune in Gaozhou County had only 139 oxen for farming, but the number had increased to 350 in 1981. Over 80 percent of the farm families in the brigade have their own oxen for farming. Since the implementation of the production responsibility system, the work of making available agricultural production materials to the peasants has also undergone vast changes. Formerly, the major clients for agricultural production materials were the production brigades which were more centralized and whose distribution capacity is greater making the work of distribution much simpler. Now that thousands of families have to be served, more frequently, with a lesser volume of supplies, and in a shorter purchase time, the volume of work has greatly increased. For example, Shantou Prefecture originally had 2,008 fertilizer and farm chemical supply stations employing 3,800 salesmen. By 1981, the number of stations had increased to 3,000 and the number of salesmen to 4,500. And yet, during the busy farming season long lines were formed by the masses waiting to buy farm chemicals and fertilizers.

As regards the present situation in the market for agricultural production materials in the province, the supply of fertilizers has shown a considerable increase while the reduction in the supply of film used for farming is likely to create a shortage, especially in medium and small-sized wooden farm implements and boats used for farming. Due to the shortage of raw materials and pricing problems, the production and supply of such products are likely to continue their downward trend. The concerned departments at various levels must alert themselves to the seriousness of the problem and adopt appropriate measures to remedy the situation.

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INCREASED EARNINGS FROM AGRICULTURAL, INDUSTRIAL DIVERSIFICATION REPORTED

Guangzhou NANFANG RIBAO in Chinese 20 Jan 82 pp 1, 3

[Article by Liang Fuqing [2733 4395 2348] and Tao Guangyuan [7118 0342 0337]: "Great Increases in Collective Distributions in Foshan Prefecture in Year of Major Disasters. Sunlight from Third Plenary Session Illuminates Pearl River Delta. Average Annual per Capita Collective Distributions at 39 Yuan for Past 3 Years, While During 11 Years Prior to the Third Plenary Session Annual per Capita Increases in Earnings Only 2 Yuan. Ever Increasing Contributions to Country; More and More Commodities Provided Society"]

[Text] The year 1981 was one of disasters for Foshan Prefecture, yet it was a record year for distributions from collectives. The prefecture's average distributions per capita rose from 199 yuan in 1980 to 231 yuan.

In the 3 years since the Third Plenary Session [of the 11th Party Central Committee], Foshan Prefecture's principal agricultural products--rice, sugarcane, peanuts and pond fish--rose from a pre-Third Plenary Session average annual rate of increase over a 12-year period of 0.8, 3.1, 10.1 and 3.1 percent respectively to 13, 16.8, 31.7 and 6.6 percent respectively. The prefecture made an increasingly great contribution to the country, and provided ever larger amounts of commodities to society. During the last 3 years the prefecture's rural collective distributions have averaged an annual per capita increase of 39 yuan, while in the 12-year period prior to the Third Plenary Session, annual per capita increase averaged only 2 yuan.

Consecutive years of increased output and increased earnings have made the lives of local peasants increasingly rich and varied. In 1981, more than 84,000 commune member households in the prefecture built new houses. The rural population drinking running water rather than water from rivers increased by more than 360,000. Commune member savings deposits (as of the end of 1981) amounted to 760 million yuan. These were all-time records. A substantial number of households had savings of 10,000 yuan. Xiaolan Commune in Zhongshan County had more than 500 such households, and Guzhen Commune had more than 300.

Following the Third Plenary Session and under the guidance of national plans, Foshan Prefecture respected the self-determination of production teams, and adapted general methods to local situations in a production program of gradual all-around development of farming, forestry, animal husbandry, sideline occupations and fisheries, which changed the substantially singular former economic structure of agriculture and created conditions for consecutive years of increased output and increased earnings. As a result of small area experiments conducted during 1979 and 1980 in growing crops other than paddy rice (sugarcane and peanuts), and inasmuch as a bumper rice crop had been harvested during those 2 years and a substantial amount of grain was in storage, in 1981 the prefecture converted 5 percent of its paddyfield area (slightly more than 240,000 mu) to the growing of sugarcane and peanuts, or dug ponds to raise fish. Most of these paddyfields were low-lying fields, brackish fields, windy coastal fields or rather arid hilly fields whose output of rice was very low and whose economic benefits clearly increased as a result of the conversion. Calculated on the basis of prevailing award sales policies for sugarcane and pondfish, as a result of the prefecture's 1981 expansion of the growing area and increases in yields per unit of area, increased earnings from sugarcane may amount to 84 million yuan. Output value of pondfish increased by more than 20 million yuan.

Foshan Prefecture's production program for all-around development of agriculture not only did not weaken but rather promoted grain production. The role of rotational cropping of rice and sugarcane and rice and pulses was particularly striking. As compared with the 12 years prior to the Third Plenary Session, 1980's output of more than 5.6 billion jin of rice was 450 million jin more than the 1977 all-time record. Output in 1979 also surpassed that of every year save 1977. The 1981 early and late rice crops were seriously hit by five water or wind disasters, and output fell by more than 1 billion jin from that of the previous year; nevertheless, it was still clearly greater than the era of "take grain as the only link."

One important aspect of Foshan Prefecture's multiple operations and all-around development of agriculture was the full use made of abundant local resources, of its proximity to Guangzhou, Hong Kong and Macao, and its fairly well developed commodity economy for active development of commune and brigade enterprises to increase peasant earnings. With the encouragement of a series of correct policy measures pertaining to production, supply and marketing, during the last 3 years average annual increases in earnings of the prefecture's commune and brigade operated enterprises rose from somewhat more than 26 million yuan and somewhat more than 23 million yuan respectively for the 12 years prior to the Third Plenary Session, to somewhat more than 190 million yuan and 107 million yuan respectively. In 1981, in particular, with implementation of special economic policies, earnings of commune "three intake and one supplement" enterprises in the prefecture increased by 62 percent over 1979. In response to the people's building of large numbers of new houses in cities and the countryside, and to the need for high quality goods for use in their daily lives, commune and brigade enterprises that developed most rapidly in 1981 were those that produced light industrial goods, and beverage processing industries, including those producing building materials, electric fans, embroideries, high quality furniture, small hardware items, and on down. Gross earnings for commune and brigade enterprises during 1981 are estimated at more than 1.7 billion yuan, which is 78 percent of the prefecture's gross output value from agriculture.

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NEW IMPETUS TO SUGARCANE PRODUCTION IN PANYU COUNTY REPORTED

Guangzhou NANFANG RIBAO in Chinese 30 Jan 82 p 1

[Article: "Panyu County Province Champion in Sugarcane Output. Despite Grain Output Reduction in 1981, Average per Capita Income Showed Slight Increase"]

[Text] As a result of needed readjustment of the structure of agriculture during the past three years, Panyu County has become one of the province's major cane sugar production bases. The county holds first position in sugarcane growing area, total output and yields per unit of area. It is estimated that in 1981 output of the county's sugarcane industry may reach more than 1.45 million tons, and that yields per unit of area will be 6.3 tons, for increases over 1980 of 30 and 1.6 percent respectively.

Paddy rice and sugarcane have always been Panyu County's two major crops. However, because of past one-sidedness in the guiding mentality, sugarcane production developed rather slowly. During the 1960's and up until the mid-1970's, the sugarcane growing area hovered around 130,000 mu; output totaled no more than about 500,000 tons; and yields per unit of area were somewhat more than 3 tons, lagging far behind the major sugarcane producing areas of Shunde and Zhongshan counties. In 1977, and particularly following the 3rd Plenary Session [of the 11th Party Central Committee], acting on the basis of local suitability for the growing of sugarcane and under guidance of the state plan, the county gradually increased its sugarcane growing area annually while maintaining steady growth in grain output. By 1981 the sugarcane growing area had increased to 230,500 mu, which was 34 percent of the county's cultivated land area.

In 1981 the county sustained natural disasters and, furthermore, because a system of responsibility for production had not been completely implemented at the time of the early rice crop, grain output dropped by 120 million jin from the all-time high year of 1980, yet maintained the bumper harvest level of 1977. Now the county has substantially fulfilled its public grain quotas. Despite the reduction in grain output, because of the bumper harvest in sugarcane, average per capita distributions in the county showed a slight increase over the 276 yuan of 1980.

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BRIEFS

RUBBER OUTPUT UP--The Tongshi State Farm and Land Reclamation System has sent an encouraging victory report. In 1981 the reclamation area was hit with a 5-force typhoon, but after more than 3 million slashed rubber trees were snapped off, the broad masses of staff and workers in the state farm and land reclamation area roused their revolutionary spirit to triumph over post-disaster hardships and rapidly restore production, winning a bumper rubber output in a disaster year. Last year's output of 31,200 tons of dry rubber overfulfilled by 204 tons the annual state plan. Nantian, Nanmao and Sandao farms, which were hardest hit in 1981, handled the wind damaged trees within a short period of time and cleared away roads in the rubber tree groves, collected broken off rubber tree timber, remedied post-disaster damage, and rapidly restored production. In addition, all farms intensified scientific care of damaged trees, nurtured rubber output potential by applying technical regulations, bringing some wind-damaged rubber trees back into production ahead of schedule to increase dry rubber output and assure fulfillment of state production plans. [Text] [Guangzhou NANFANG RIBAO in Chinese 2 Feb 82 p 1] 9432

NEW HYBRID RICE--In order to hasten breeding of a successor variety to "Guichao," 22 agricultural science units in Guangdong Province's prefectures and municipalities began cooperation on 2 February on intermediate experiments with large area growing of new fine variety paddy rice, "Shuanggui No 1." Fine variety "Guichao," the renowned high-yield fine variety rice bred in Guangdong Province, has played a very great role in increasing grain yields since its promotion in 1978. However, as a result of having been planted in numerous crops over many consecutive years, this variety's resistance has gradually weakened. In the breeding of "Shuanggui No 1," the Multiple Genetic Techniques Breeding Research Office of the Rice Institute of the Provincial Academy of Agricultural Sciences crossed "Guiyang C 17," the female parent, with "Guichao No 2," the male parent, for the initial breeding in 1979 of a new fine variety, which can be used as either an early or a late crop. Testing at many sites has shown it to have short stems, tolerance of fertilizer, high yields, resistance to lodging, and a stronger resistance to bacterial blight and blast of rice than "Guichao No 2." Quality of husked rice is also rather good. This intermediate testing was done provincewide at 22 intermediate test sites of various kinds in mountains, hills and plains. At each site, demonstrations were conducted on 100 mu tracts, and some auxiliary experiments in culturing were also done. Before and after the lunar new year, all locales continued to run technical training courses. [Text] [Guangzhou NANFANG RIBAO in Chinese 6 Feb 82 p 1] 9432

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SYSTEMS OF RESPONSIBILITY SAID TO NEED CORRECTION

Shijiazhuang HEBEI RIBAO in Chinese 1 Feb 82 p 1

[Article: "Zhangjiakou Prefecture Acts To Perfect Systems of Responsibility. Rapid Implementation, Persistent Consolidation, and Gradual Perfection"]

[Excerpt] Recently the Zhangjiakou Prefecture CCP Committee and provincial administrative offices convened a prefectural conference for exchange of experiences on systems of responsibility for agricultural production. Everyone referred to vivid realities to enthusiastically extol the systems of responsibility for agricultural production. Discussions linked to local realities brought forth ideas for perfecting systems of responsibility for agricultural production in 1982.

Since mid-August 1981, every place in the prefecture has been assigned by the Prefecture CCP Committee to use a guiding mentality of criticism of "leftism" to eradicate pernicious influences and of bringing order out of chaos in renewed study and implementation of the spirit of the 3rd Plenary Session of the 11th Party Central Committee, in running make-up classes for discussion of the issue of standards for truth, in redressing past wrongs on a wide scale, with the Hu Ge solution of problems being representative, and carrying out wide-ranging discussions of systems of responsibility for production. This has been for the purpose of breaking the fetters of erroneous leftist ideology and to clear away all obstacles for carrying out perfection of systems of responsibility for production, implementation work for the prefecture's systems of responsibility for agricultural production thereby developing fairly rapidly. As of now, 20,996 basic accounting units in the prefecture have set up various forms of a system of responsibility for production, of which 93.79 percent either contract production to households or contract work tasks to households under unified management. In the process of implementing systems of responsibility for production, inasmuch as some cadres lacked an accurate perception and had insufficient experience, some problems occurred. For example, in some units such problems occurred as making no distinctions between what belongs to one and what belongs to another, complete dividing up of everything, including cutting down trees, tearing down houses, and disposing of public property at low prices. In some other communes and brigades there existed the problem of one-sidedness in handling the relative interests of the state, the collective, and individuals. In view of these problems, the following four actions were proposed for improvements in systems of responsibility for agricultural production in 1982.

(1) Correct handling of the relationship among the state, the collective, and individuals. Regardless of the form of a system of responsibility practiced, provisions must first be made for, and fulfillment guaranteed for, state requisition procurement of grain and edible oils, quota purchases of agricultural products, and collection of revenues. As the peasants prosper, support for the party and the country cannot be forgotten, but rather necessary contributions to the country should be actively made. Furthermore, with the growth of production and the year-by-year increase in commune member earnings, public accumulations should gradually increase. Even production teams that practice contracting work tasks to individual households must withhold a certain amount, as resources permit, for public accumulation funds, public welfare funds, for strengthening the collective economy, and for developing collective endeavors.

(2) Correct implementation of the principle of doing in a unified way whatever should be done in a unified way, and contracting whatever should be contracted to protect and develop productivity. It is recommended that "contracting" be done under "unified" leadership, and that the "contracted for" should also be managed. Whatever should be unified and whatever should be contracted, or how things should be unified and how they should be contracted should have as their point of departure that which is both advantageous in protecting and developing productivity and in making the most of the superiority of the collective economy, and that which is advantageous in arousing the enthusiasm of the broad masses of commune members for labor, the emphasis being on the word "adaptation" in the adaptation of general methods to local situations, to times, and to industries. Persuasion of the masses has to be done on the issue of unifying and contracting, those things that should be unified being definitely unified, as for example, large farm machines and implements, fixed assets, and public accumulations, all of which should be unified. Orchards, large water conduits and such production facilities should be unified. When major natural disasters occur, in order that collective strength be brought to bear in carrying out a struggle against disaster, work forces must be planned and assigned in a unified way. In the case of those things that were divided when they should not have been divided, thereby damaging productivity, leaders at all levels should dare to get to work in restoring them to their original condition. In some places where draft animals, small water conservancy facilities, small farm implements and small production items are suitable for division among households for use and care, action should proceed from realities and dispersed use and care practiced.

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MEASURES TO INCREASE HOG RAISING OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 1 Feb 82 p 1

[Article by Correspondent Li Lianyin [2621 6647 0603]: "Need for Speedy Reversal of Live Hog Decline"]

[Text] Editorial Department:

Recently I conducted an investigation on the issue of live hog production with concerned units in Langfang Prefecture. Results of the investigation showed that during the past 3 years the overall situation in live hog production in this prefecture has been that of a dramatic decline in collective raising of live hogs and not very fast development of private hog raising. Statistics as of the end of December 1981 show 709,834 live hogs in inventory in the prefecture, a 153,156 reduction from the same period in 1980, which is a 7.7 percent decline or a 52.4 percent decline from the all-time high. Why has hog production declined so drastically? Reasons are many, but it was caused mostly by lack of vigorous leadership, numerous policy changes and "difficulties in selling hogs."

How can decline in hog production be reversed? First it is necessary to study the new situations in agriculture following institution of systems of responsibility, and to strengthen leadership of the pig raising industry. Following the 3rd Plenary Session of the 11th Party Central Committee, this prefecture has corrected the former leftist ideology of taking hogs as the key link, and the breeding industry has flourished. However, when some leadership cadres have encountered new contradictions and new problems in the raising of hogs, they have not promptly studied and solved them. Some have even abandoned leadership of the hog raising industry, one-sidedly supposing that now that the land had been contracted to individual households, hog raising was a matter for individual commune members. In some communes and brigades a situation has emerged in which no one takes charge of the collective raising of hogs, and no support is given individual raising of hogs, so that hog raising is virtually in a state of limbo. In some production teams that practice a system of responsibility of "double contracting," collective hog raising has been entirely dispensed with. Now, the Langfang Prefecture CCP Committee and provincial administrative offices are emphasizing taking hog raising in hand as a mainstay project in rural economic diversification, reviving the former workable and effective management methods and administrative organizations, again designating special people to take charge of hog raising, and establishing a system of economic responsibility. In addition, they are also preparing to help some communes and brigades with proper conditions to establish commodity hog bases and shoat breeding bases, for a continuation of the practice whereby brigades do the breeding and households do the raising to get results in a short period of time.

Second is the consolidation of policies relating to bonuses and award sales for raising hogs to encourage collectives and individuals to raise more and sell more. In 1981 a substantial number of production brigades and production teams lowered bonus standards and eliminated the bonus system, and limited hog raising on the basis of population, which dampened the enthusiasm of the masses for hog raising. In 1981, households in the prefectures raising no hogs rose from somewhat more than 60,000 in 1980 to 110,000, lowering the amount of hog raising in the prefecture as a whole. In Dacheng County, 69 percent of production brigades and 77 percent of production teams abolished their policy of issuing bonuses for hog raising. Bonus grain and bonus workpoints issued for summer hog raising in the county amounted to only 13 percent of the 1980 amount. As a result, as of the end of 1981, hogs in inventory had declined 12,350 head from 1980. This situation has aroused the serious concern of the Langfang Prefecture CCP Committee and government administrative offices, who have renewed and formulated bonuses and award sales for hog raising. They have made a special point of protecting hog breeding and have implemented these measures quickly in order to win the confidence of the people.

Third is clearing of circulation channels to help commune members sell their hogs. Since 1979, this prefecture has had "difficulties in selling hogs" during June, July and August. Because prefectural units concerned instituted a system whereby procurement quotas were set on the basis of sales, many fattened hogs that should have been sold did not sell. In Xianghe County, from 1 June onward, live hog procurement points were reduced from 17 to 7, and a limit of 20 head procured each day was set. This restriction remained in force until October. This resulted in a loss of hogs to other areas or keeping them in sties, creating economic losses for the country, the collective and individuals, and impairing the enthusiasm of the masses for hog raising. Beginning in the fourth quarter of 1981, prefecture and county live hog procurement units used all possible means to solve the problem of "difficulties in selling hogs." Taking in hand both procurement and sales, with the help of the concerned provincial units, they several times consulted with and signed agreements with Beijing and Tianjin markets. This year they are preparing to overpurchase live hogs, and the problem of "difficulties in selling hogs" should be substantially solved. In addition, all counties are to revive their former live hog procurement points to help the masses sell their hogs nearby for a steady expansion of city and country markets for sales.

9432
CSO: 4007/246

SCIENTIFIC FARMING METHODS PRODUCE BUMPER YIELDS IN TEST FIELDS

Beijing GUANGMING RIBAO in Chinese 14 Feb 82 p 2

[Article by Lin Yutang [5677 3768 1016] and Lu Shiqi [7627 1102 3444]: "Science Has Entered the Responsibility Fields; Grain and Cotton Has Increased and Earnings Are Greater. Bumper Yields Harvested from 600,000 Mu of Multiple Demonstration Fields in Hebei Province; Economic Benefits 25 Times Greater Than Investment in Technology"]

[Text] Recently the Hebei Provincial Science Commission decided to enlarge and spread agricultural technology demonstration fields this year. Last year, acting on the basis of different natural conditions in individual areas, the Provincial Science Commission adapted general methods to local conditions in 22 counties to lay out 600,000 mu of demonstration fields for promotion of multiple agricultural techniques, prompting 45 new agricultural techniques and new achievements. Despite continuance of unfavorable climatic conditions including drought, low temperatures, and early frost, bumper yields of grain, cotton, oil-bearing crops, and fruits were harvested. Comparison with control fields having the same water and fertilizer conditions showed 20 to 30 percent yield increases, and economic benefits equivalent to 25 times the technological investment.

Jimian No 2 and Lumian No 1, two new cotton varieties, were extended to cultivation on 188,200 mu of cottonfields in 9 counties including Zhengding, Yongnian, Hejian, and Gucheng, and use of new pesticides and chemical ripeners, scientific care, and skillful watering and fertilization during crucial periods of growth were also promoted as part of 12 new techniques. Yields per mu averaged increases of from 23 to 25 percent as compared with control fields. Following a general soil survey, Sanhe County focused on the soil's serious lack of phosphate, promoting new techniques in scientific fertilization with phosphate on 140,000 mu of land in 8 communes for wheat yields averaging increases of from 64 to 95 jin.

Last year Funing County suffered serious drought. On 20,000 mu of paddyfields they promoted early seedling propagation, shallow plowing, chemical weeding, restructuring of fine varieties, and such new techniques. In a year of great drought, paddy rice yields averaged yields of 961 jin per mu, a 19.2 percent increase in yields over control fields. Net earnings amounted to 7.6 times the investment in technology.

Qing County, located in the Hai He basin, has more than 300,000 mu of saline-alkaline soil on which formerly only grain was grown, producing yields averaging no more than 100 jin per mu. They summarized experiences with test plantings of sunflowers during the past several years, and promoted planting of 20,000 my of saline-alkaline land to new varieties of sunflowers that tolerate salinity and alkalinity, tolerate drought, and have high economic value as well. They also spread new techniques of sowing seeds at the right time so that the period of flowering would miss the rainy season, the pollination rate being increased thereby for sunflower seed yields of 152 jin per mu and economic benefits from 3 to 4 times those obtained from the growing of grain.

9432
CSO: 4007/300

NUNJIANG ADHERES TO STATE PLAN IN CROP PRODUCTION

Harbin HEILONGJIANG RIBAO in Chinese 22 Feb 82 p 1

[Article: "Nunjiang Prefecture Maintains the Proper Ratio Between Grain and Cash Crop Production According to the State Plan"]

[Text] Acting under the guidance of the state plan and strictly adhering to the ratio for the planting of grain and cash crops, Nunjiang Prefecture has been able to increase both production and income, to produce food as well as a profit, and to meet overall as well as local needs.

An important food production area, Nunjiang is also well suited for the development of such cash crops as sugar beets and sunflower. Under the erstwhile "leftist" influence for a long period of time, Nunjiang had caused a serious imbalance in the agricultural situation by putting too much emphasis on food production. Since the Third Plenary Session of the 11th Party Central Committee, however, Nunjiang has reversed its position of putting emphasis on grain production and has correctly readjusted its agricultural economic system in accordance with the policy of "not relaxing efforts to develop food production, but developing diversified operations in a positive manner." By 1981, Nunjiang had increased the acreage for cash crops to 3.21 million mu, an increase of 1.71 million mu over the acreage for 1979, or 14.3 percent of the acreage of the cultivated land. By the end of the year, food production had increased by 16 percent compared to the figure for the previous year; the amount of grain for exchange purposes had increased by 15.3 percent; and cash crops showed a further increase over the figure for 1979, on top of the increase of 70 percent for 1980. The average collective income for each commune member came to 126.7 yuan, the highest ever recorded.

While setting the proper ratio for the planting of grain and cash crops for this year and combating the tendency on the part of certain cadres in the production teams to favor the planting of a variety of cash crops for profit, Nunjiang Prefecture made it very clear that while it is wrong to place emphasis exclusively on grain production, it is also wrong to overlook its importance, let alone to neglect the production of grain for the sake of making a profit. While the nation is still plagued by a shortage of grain, efforts should be made to remedy the shortage. The overplanting of sunflower by some production teams last year has had an adverse effect on grain production. While drawing up plans for agricultural production for 1982, the party committee in Nunjiang proposed that the production teams should reduce to a reasonable level the acreage planted in sunflower, should set the acreage for the planting of grain and cash crops for the entire area, and should maintain the existing level during the next few years. It is only when there is agreement among the production teams on how readjustments should be made on the basis of actual circumstances, such as permitting impoverished production teams to engage in the planting of cash crops, that the situation of impoverishment can be brought to a speedy end.

Under the guidance of the state plan, efforts should be made to approach the matter of planting in a logical manner, to set up a reasonable ratio for the planting of grain and cash crops, and to increase the rate of profits from the available acreage. The relevant departments in the prefecture should assist the commune production teams and commune members in the various counties to dedicate themselves to the establishment and perfection of the various forms of the production responsibility system, to strengthen the administration of operations, and to develop fully the positive attitude of the communes collectively and the commune members individually. In the production of cash crops, efforts should also be made to organize professional teams, professional units, professional families, and professional individuals; to put into practice the responsibility system of paying each according to his work; and to strengthen the administration of cash crop production.

9621
CSO: 4007/317

PREPARATIONS FOR A NEW YEAR OF FARMING URGED

Shenyang LIAONING RIBAO in Chinese 19 Feb 82 p 1

[Article: "Earnestly Do a Good Job of Spring Farming and Grain Production. Provincial CCP Committee and Provincial Government Issue Instructions"]

[Text] The lunar new year has passed and the busy season of spring farming and production will soon be here. So that greater development will take place in Liaoning Province's agricultural production this year, all levels of CCP committees and government, as well as the braod masses, should immediately act and nor lose the opportunity to prepare to farm, and to do spring farming and production.

1. There should be diligent implementation of the summary of minutes of the national rural work conference, and further perfection and implementation of production responsibility systems. As of now an overwhelming majority of communes and brigades in the province have instituted production responsibility systems, which require consolidation and no further changes. Where responsibility systems have not been implemented, discussions should be held with the masses. If views differ, there can be full discussion, the forms of responsibility systems about which an overwhelming majority of commune members agree being selected and put into operation as quickly as possible.

Agricultural production should continue to adhere to program of taking the planned economy as the key link, with market regulation being supplementary. All jurisdictions should rapidly institute agricultural production planning. Brigade and commune cadres as well as commune members should be indoctrinated in obedience to state plans, attention given to surmounting and correcting situations of separation from state plan guidance. However, there should be no recurrence of the former old defect of stultifying uniformity at the mere mention of obedience to state plans. Joint discussions and signing of state purchase and quota purchase contracts between the state and collectives or individual commune members are concrete embodiments of taking the planned economy as the key link and obedience to state plans. If only collectives or commune members fulfill state purchase and quota purchase contracts, it will not be necesaary for the state to interfere excessively, and portions that collectives or individual commune members are permitted to work will be given active help.

2. While assuring steady increase in grain production, it is necessary to actively launch economic diversification, promoting the all-around development of farming, forestry, livestock raising, sideline enterprises, and fisheries. Following several years of readjustment the province's agricultural crop patterns tend to be equitable in the main, requiring no further changes. The key to development of grain and economic crops lies in increase in yields per unit of area. Except for individual places in which proper readjustment has not yet been made, the area sown to grain should mostly be maintained as it is with no further reduction. Close-in suburbs should take vegetable production as the key link, and diligently do a good job of vegetable production. It is necessary to make equitable use of various resources, broaden production avenues, and actively develop economic diversification into forestry, livestock raising, sideline occupations, fisheries, and industry. Clearing of land for agriculture on mountain slopes and pastoral area grasslands is to be strictly prohibited, and those destroying resources or water and soil conservation are to be dealt with severely.

3. Need for strict attention to combat against drought and preservation of soil moisture to assure timely sowing. The western part of Liaoning Province has had 2 consecutive years of drought and the soil is seriously devoid of moisture. In other areas too, because of the scant rain and snow last fall and winter, a spring drought will take place. In the central Huntai region of Liaoning, reservoir water storage is 330 million cubic meters less than for the same period last year. It is the year of least water storage since 1979. Triumph over drought and the scarcity of water have become key problems in most parts of the province in deciding whether planting can be done on time. All locales should fully realize this and take resolute measures to do a good job of combat against drought, make full use of existing water sources for spring irrigation, do a good job of raking and compacting to conserve soil moisture, do plowing and ridging [in early spring when soil moisture is at the highest point], rush plant to take advantage of soil moisture, and assure prompt sowing of seeds. Combat against drought must both be taken firmly in hand and also proceed from realities, with striving for economic benefits, adaptation of general methods to local situations, and sensible arrangements. Some seeds must also be set aside for late planting of fields. Central region wetland areas should adopt effective measures for planned use of water, equitable use of water, conservation in the use of water, and for development of sources and restriction of flow. They should make full use of existing pump wells, but should strictly control the addition of new wetlands. They should actively spread the successful experiences of many years in combating drought on wetlands, strive to plant wetland fields at once, and take good care of them. Low-lying areas prone to waterlogging should organize forces to build terraces, and to clear silt from ditches along field rows and from drainage and irrigation ditches.

4. Diligent attention to spring farming and production materials preparation work. This year a shortage of fertilizer continues in the province, and phosphate fertilizer is very scarce. All locales should direct serious attention to this matter. They should arouse and organize the masses for vigorous development of a campaign to accumulate farmyard manure. The

industrial sector should do everything possible to produce more chemical fertilizer, plastic sheeting, and highly effective pesticides of low residual toxicity. Attention should be devoted to organization of units concerned to manufacture and promptly supply small farm tools. A good job should be done of selecting seeds and of transfering surpluses to places having shortages, to livestock innoculations, to springtime afforestation, and to inspection and repair of fishing boats and nets. Farm machinery should be promptly inspected and repaired. Responsibility systems for farm machinery linking output to calculation of compensation should be rapidly established, and key mechanized production brigades set up. This year should bring new breakthroughs in the sowing of seeds, the transplanting of seedlings, cultivation and weeding, prevention and control of diseases and insect pests, and in combat against disasters. Commercial, supply and marketing, and banking units should promptly supply the materials and the credit needed for spring farming and production work.

5. Science and technology should be vigorously popularized and spread, and action to increase agricultural production vigorously taken. All jurisdictions should respond to the new situation of urgent demands by the broad masses of peasants to study science and to use science, and adopt various methods of popularizing agricultural scientific knowledge for all-around improvement in the level of agricultural production techniques. Existing scientific and technical accomplishments should be spread, and advanced scientific and technical accomplishments should be translated into direct productivity. Places and stations for the promotion of technology having requisite conditions can set up technical contract agreement systems with production teams, organizations, and specialized households. During the stage of preparing to farm, level by level peasant technical mainstay cadre training classes should be run to summarize and promote science and technology and advanced experiences in farming, forestry, livestock raising, sideline occupations, and fisheries to meet this year's needs for all-around development of agricultural production.

6. Need to strengthen leadership of preparations for farming and spring farming work. Plans for the entire year depend on the springtime. The work of preparing for and doing spring farming directly relates to agricultural production for the entire year. All levels of the people's government must make preparation for farming and spring farming the central task in rural areas at the moment, and conscientiously strengthen leadership. All rural work should center around and be subordinate to preparation for farming, and spring farming and production. All levels of leadership cadres should go down to villages in order to promptly understand and solve problems in preparing for farming and spring farming. All trades and industries must support rural villages to do a good job of preparations for farming and spring farming. Disaster areas should closely link arrangements for the livelihood of the masses with preparations for farming and spring farming and production. Cadres should be indoctrinated and the broad masses of people aroused to continue to go all out, to carry forward the fine work style of arduous struggle, and to do all work better than it has been done in previous years to win a greater bumper harvest in agricultural production this year.

9432
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FORESTRY SPECIALISTS ISSUE CALL TO SAVE FORESTS

Xian SHAANXI RIBAO in Chinese 22 Feb 82 pp 1, 2

[Text] A survey report, "Flood and Forestry", written by 20 specialists, professors, and scientists of forestry, water conservancy, and environmental protection provides facts to prove that the destruction of forest vegetative cover will lead to a loss of ecological balance, the deterioration of the environment, and endless after effects, and the extraordinarily severe flood of the western part of Qinba Mountains of Shaanxi serves to prove their point. In the report, the specialists made an urgent appeal to save the forests. They also offered a 5-point proposal regarding forestry construction.

This survey project was organized by the Provincial Bureau of Forestry and the Provincial Forestry Society. The report was written following an on-site inspection, survey, and interview tour of the flood damaged 8 counties and 1 city in Hanzhou and Baoji.

The Lower the Forest Cover, the More Severe is the Flood Disaster and the Greater are the Losses

The survey report states that the flood disaster of last year in the regions of Qinling and western Bashan takes the following form: In low hill areas of very few trees, aside from the destruction of some dwellings and lands along the banks of streams, the more serious situation is the severe erosion everywhere. Landslips, cave-ins, and mud-rock flows are the cause of disastrous losses of lives and properties. In Pingchuan Prefecture, the torrents rise and rivers overflow, the dikes break, and many farms and villages are inundated to result in gigantic economic losses. According to historical data, this flood is by no means the worst in history, however. On 26 July 1890, the Jialingjiang River rose suddenly in Lyueyang County to cause the county courthouse to be in 3 chi deep of water. A marker is still on the pillar to record the water level. The marker recording the current flood is 84 cm lower than the one in 1890. In Hanjiang, the greatest flow volume in 1964 was 5,650 m^3/sec and that of last year was only 4,810 m^3/sec. The frequency of floods in these 2 places has also been increased. Before the liberation, it was one flood every 28 years; now it averages once every 5 years.

Why is it that the flood is by no means the largest but the damage is so extraordinarily severe? Why is it that the frequency of floods has increased? The following comparative data are provided in the report:

Name of County	Rate of Forest Cover (%)	Rainfall From 1-25 August (mm)	Losses (10,000 yuan)
Taibai	77.8	509.6	2026
Liuba	58.8	572.0	1839
Fengxian	42.6	363.8	about 8000
Lyuyuang	31.6	627.5	5671
Ningqiang	26.1	528.0	8196

It may thus be observed that the rainfall is the direct reason for the disaster, but the extent of the disaster caused by the rain, the size of the loss, etc. are all closely related to the forest cover. The forest coverage is the highest in Taibai and Liuba counties, the rainfall was large, but the losses were the smallest. Lyueyang and Ningqiang counties are the opposite. Their forest coverage is the smallest, the rainfall is similar, but the losses are 1 to several times those of Taibai and Liuba.

Why do Mud-rock Flows and Landslips Run Wild?

From on site inspections, the specialists discovered that mud-rock flows and landslips of hillsides resulting from heavy rains are the major form of disaster in the mountain regions. According to incomplete statistics of the 5 counties of Mianxian, Lyueyang, Ningqiang, Nanzheng, and Liuba, mud-rock flows and landslips occurred more than 10,000 times. On 2 Sep last year, a giant landslip occurred in Minzhu Brigade No 4 of Changgouhe Commune, Mianxian, measuring 400 m in height and 300 m in width, amounting to 2 million m^3 of mud and stone. It came down so suddenly it buried 49 dwellings and destroyed 56 mu of fields. On the ground, the mud and stone pile became a large dam of 30 m in height, 200 m in width, and 250 m in length to block the water of the stream and to accumulate 100 thousand m^3 of water on top of 36 mu of fields to make that area into a reservoir.

Along the Fengzhou Section of the Baoji Railway, there were landslips in 92 places and in 44 places the roadbed was destroyed. Ten large and medium bridges were knocked down and 3 railway stations were buried. The operation of Baoji Railway was interrupted for as long as 2 months.

The survey report states that the complex geological structure of Qinling and Bashan, the steep mountain slopes, the great drop of ravines, and the very changeable terrain are all factors contributing to the easy occurrence of mud-rock flows and landslips. Last year's large storms is the natural factor which produces them, but the abusive logging practices of many years, the destruction of forests for cropping, and the disregard for water and soil conservation have led to the certainty of their occurrence and amplified their destructive force. When a large area of land loses its forest vegetation protection, the runoff on the mountain slopes pours down in a heavy rain to form swift streams to cut the land and dig up the slopes of ravines so that a localized body of the mountain loses balance and collapses into mud-rock flows and landslips. The report compares the relationship between vegetative cover and landslide in the various regions of Ningqiang County: In Daijiaba Region, the coverage is 32 percent, landslides occur in 2,966 places; in Yangping Region, the coverage is 32.6 percent, landslides occur in 1,273 places; in Tiezhen Region the coverage is 51 percent, landslides occur in 393 places; in Bashan Region, the coverage is 52.9 percent, landslides occur in 361 places. In Beiba, Zhongshan areas of Nanzheng County, the ancient granite has a weathered layer 2 m deep. This is where mud-rock flows can occur very easily, but the forest coverage is 62.3 percent and very little landslide occurs. On the road from Xiaoba to Xihe Commune, the specialists traveled more than 40 km and only saw 2 places of mild landslips. In the 690 thousand mu area, which is Beiba Forest, there was not a single dwelling destroyed by either landslides or torrents. According to the Department of Meteorology, the storm center was in the northwestern part of Sichuan and southeastern part of Gansu. It came down southward through Baishuijiang of Shaanxi to Lyuyang, Yangpingguan, and the southern part of Ningqiang before turning to Nanjiang County of Sichuan and the Beiba Region of Zhengxian County of Shaanxi. Fengxian of Baoji Prefecture is located outside of this boundary, but the condition of disaster is frightful. It is rather worst than Ningqiang, Lyueyang, and Mianxian. The specialists climbed up the Chaiguanling Range on the Baohan Highway and were able to observe the startling difference between the north and the south of the range. To the south, Zibai Mountain in Liuba County is covered densely with forests and almost no trace of flood damage is observable. To the north, in Fengxian County, landslips and mud-rock flows are everywhere.

Deforestation for Cropping Has Caused Erosion of Large Areas

The practice of destroying the forest and turning it into fields or enlarging the cropland through abusive reclamation is also an important reason for the flood disaster. The forests of the mountains of Qinling and Bashan have been repeatedly devastated by large area reclamation projects throughout history. After the liberation, the party and the government issued laws and orders to forbid destroying forests to crop the land but the practice has never been stopped. On the contrary, it is getting more and more devastating. According to the estimate of a related department in Hanzhong Prefecture, in these 30+ years, the reclaimed area is more than 2 million mu. After the forest vegetation is destroyed, large pieces of land are nakedly exposed. Every time it rains, the rain drops erode the soil and the runoff washes the soil away. Additionally, sloped cropland is less previous and can hardly store water. In this manner, a heavy rain causes a great disaster, and light rain causes a little disaster, and no rain causes a drought. Zhenba County is big in reclamation. From 1950 to 1980, 644,000 mu were thus reclaimed. The rainfall of Aug 81 was only 345 mm to make that county an area of very little rain in all of Hanzhong Prefecture, but 236,500 mu there were damaged and 20,000 mu of these were destroyed. The Aug rainfall last year in Liuba County was close to that of Ningqiang County, but 87 percent heavier than Zhenba County, but there has been very little reclamation and the forest coverage is as high as 75.6 percent; therefore, the damage is much milder.

With the increase of reclamation index, the area of sloped cropland is larger and the vegetative cover is poorer. Every storm flushes off a large quantity of mud and sand to add to the silt carrying quantity of the streams. According to the actual measurement records of the past 24 years of Wuzhen Hydrological Station of Mianxian, above Wuhouzhen of Mianxian, the Hanjiang River carries 2.49 million tons of silt a year on the average, reaching 8.66 million tons in the highest year. The annual erosion modulus is 804 ton/km^2 to 2,100 ton/km^2. Soil erosion of the Jialingjiang Valley is even more severe. According to an analysis of the 34-year data of Lyueyang Hydrological Station, Jialingjiang carries an average of 32.3 million tons of silt a year, 77.4 million tons in the highest year. The annual erosion modulus is 1,680 ton/km^2, 4,030 ton/km^2 in the highest year. This severe an erosion problem is comparable with the problem of the loessial plateau to the north of Huihe. The land is flushed to become thinner and thinner; the riverbed is silted to become higher and higher; and the flood disaster becomes more and more severe.

Five Proposals To Save the Forests

Specialists of the survey group point out: The Qinling Bashan region had once been in the past a place of trees and grass in profusion. The mountains were green and the waters were clear. There was no erosion. After the liberation, under the guidance of the party and the government, there was some afforestation efforts in areas of Hanzhong and Baoji but the force of historical tradition and the influence of the leftist errors caused terrible destruction of the forest vegetation. The forest ecological system of Qinling and Bashan could no longer withstand the attack. At present, the extent of erosion of this region is not yet as severe as that of the loessial region of northern Shaanxi, but the results are even more serious. This is due to the fact that in northern Shaanxi there is a thick layer of loess while in the region of Qinling and Bashan there is only a thin layer of soil. Once this layer is washed away, there will just be the bare rocks, difficult to change in thousands of years and the basic condition for agricultural production will have been lost. The specialists of the survey group, the professors, and the scientists are making this urgent appeal just for this reason. In their report, the following 5 proposals are also presented:

(1) The region of Qinling and Bashan are high mountains and steep slopes. The soil is rather thin and the geological structure is complex. This is one of the several areas of the country where mud-rock flows occur easily during storms. It is also the origin of several major streams, such as Jialingjiang and Hanjiang of the middle reaches of Changjiang. It is; therefore, necessary to forbid abusive logging to protect and manage the remaining forests. With management and reconstruction, the forest structure should be gradually reformed to improve its quality. There should be planned afforestation and renewal to nurture a forest reserve and to enlarge the forest coverage. The forest resources should be surveyed and the trees classified to provide a basis for designing a reasonable logging and utilization plan. Large area total logging and concentrated excessive harvesting should be prohibited.

(2) The ownership authority of the mountain forests should be clearly designated to reform the forest management system. For the State owned forests, forestry bureaus should be established according to a readjusted natural divisions to be managed by the provincial government in a unified manner. The current system of separation between the forest industry and the forest management must be changed. Harvesting, cultivation, and afforestation should be combined in the organizational structure and the management system. Forests belonging to the collectives should be managed by the forestry department of the prefecture or the county and there should be a unified and strict management system. There must be a procedure of granting permits before the communes, brigades, or their members are allowed to cut trees.

(3) Destroying forests for cropping should be strictly forbidden. The steep slopes must not be used for cultivating crops. Protection of the forest vegetation must be strengthened. There should be propaganda to teach the importance of preserving the ecological balance of nature. Those who destroy forests for cropping should be punished by law. The law must be clear and concrete so that it can be enforced.

(4) There should be an overall plan to control the mountains and streams together. In the remote mountains, the plan should mainly be afforestation and nurturing the sources of water. In the low mountains and hills, economic forests should be quickly developed to produce firewood and other usable timber. In matters of river and stream management, the principle of combining biological measures with engineering measures must be implemented. When dikes and dams are being constructed, protective forests should be planted so as to reap the maximum protective benefits. The work of water and soil conservation of the southern part of Shaanxi must be strengthened and a water conservancy organization must be established in order to carry out the work well.

(5) Scientific research should be strengthened to study the natural ecological system of these mountains and the effects of human activities on the ecological system, to study the structural characteristics, the function, and especially the load capacity of the forest system with respect to economic activities, and to study the reasonable way of managing the natural resources, their development, and utilization. These studies will provide a scientific basis for developing the natural resources of the Qinling Bashan region and to preserve its ecological balance.

6248
CSO: 4007/290

DEVELOPMENT OF FAVORABLE CONDITIONS FOR PIG RAISING

Xian SHAANXI RIBAO in Chinese 21 Jan 82 p 2

[Article by Commentator: "Consolidate and Develop Favorable Conditions for Pig Raising"]

[Text] Since the Third Plenary Session of the 11th Party Central Committee, pig raising in our province has developed at a steady pace and the outlook is most favorable. Since 1979, there has been a large increase both in the number of pigs out of inventory as well as in the quantity of meat produced. There is enough pork not only to meet the needs of the province but also to supply other provinces. There are signs, however, that pig raising is in a downward trend, as the number of sows and pigs in stud is being sharply reduced. By the end of November 1981, the number of sows throughout the province had dropped by 350,000, while there were only 1 million pigs in stud. There was, on average, only 1 male pig for every 35 sows. Unless this problem is promptly dealt with, it is likely that the number of pigs will continue to decline and that a shortage of pork will occur. The governments at various levels must therefore keep a clear head and take prompt measures to consolidate and develop favorable conditions for pig raising.

While there are many factors accounting for the downward trend in pig raising, the main reason is the shortage of animal feed as a result of reduced autumn crop production. The "difficulty of selling pigs" has greatly damaged the positive attitude of the peasants for raising pigs. Another reason may be attributed to the fact that those in leadership positions at various levels failed to foresee the new situation which would arise with the implementation of the responsibility system in agricultural production and to exercise their leadership in pig raising in a vigorous manner. To reverse the downward trend and maintain this year's level at approximately that of last year, it is absolutely necessary that the various levels of government as well as the concerned departments should regard pig raising as a matter of major importance.

The primary requisite for the development of the pig-raising industry is to increase the number of pigs in stud as well as the number of sows in order to ensure the supply of pigs. Every area where 7 to 10 families do not have a sow for breeding purposes and where there is not an average of 1 male pig for every 25 sows must take positive steps to remedy the situation. Those areas where the number of sows is particularly small must "keep all sows in stock without being selective" in order to increase the number of pigs. State-operated food stations, livestock veterinary stations, and breeding stations which have the means to do so must take it upon themselves to breed male pigs. Pig-raising collectives must give priority to the raising of male pigs and sows and supply piglets to the commune members. At the same time, in meeting the new situation that is accompanying the implementation of the responsibility system in agricultural production, they must actively promote the raising of sows by commune members and offer them whatever assistance they may need. They must exercise strict control over the outflow of sows and place a ban on the indiscriminate slaughtering of pigs and the castrating of male pigs. Peddlers must not be allowed to engage in the selling of sows.

The policy on pig raising must be strictly enforced. The series of policies which have been adopted in the past must continue to be implemented and must not be allowed to lapse or to be altered. Those production teams with household production contracts but where the households do not have a collective stock of grain must raise a supply of grain according to the size of the cultivated land or the production contract quota so as to ensure the sale to the commune members of animal feed for pigs. The various areas must also adopt the method of awarding brisk-selling industrial products to the production teams and professional breeders or of allowing them to buy such products in order to encourage them to make an extra effort in the raising and selling of pigs. The production teams are to be responsible for purchasing to meet the purchasing quota set by the government. In implementing the responsibility system in agricultural production, the production teams must assign to units and families the job of breeding. The government's food departments and the production teams must sign contracts setting the purchase quotas and stipulating the responsibilities and benefits for both parties. Contract terms must be met. Any party that fails to fulfill the terms of the contract must be held responsible for the losses incurred. The purchasing departments in various areas must improve their style of doing business and the way they go about purchasing pigs. For the convenience of the masses, they may go to the sellers to make advance payments. At the present time, pigs held in stock by the masses must be purchased without delay. In the future, when pigs have reached the standard size for selling, food departments must not refuse to buy them or deliverately lower the grade of the pigs and the purchase price and thereby make things difficult for the masses. The "difficulty of selling pigs" must not be allowed to happen again. After the pig-raising production teams and the commune members have met the quota set by the government for the sale of pigs, they may be permitted to sell the surplus to the government, or they may be given a permit by the food stations to slaughter the pigs for their own use, to be shared or to be sold. The price, however, must not be raised. The small number of speculators must be sternly dealt with according to the law.

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BRIEFS

GOVERNMENT SUPPORT--In order to reverse as soon as possible the downward trend in pig production and to ensure the supply of vegetables to the cities and mining areas, the provincial government has authorized the departments of finance and agriculture to allocate 1 million and 2 million yuan, respectively, to support the raising of stud pigs and sows and the production of vegetables. The provincial departments of finance and agriculture have recently made such funds available to the concerned regions and cities and have sent out notices requesting the production teams in the communes to continue to adhere strictly to the principle of primarily emphasizing self-reliance and counting on government support as a secondary measure, to ensure that the special funds are used for their designated purposes, to strive for the achievement of economic benefits, and to refrain from misappropriation and waste. [Text] [Article by Zhao Bingan [6392 4426 1344]] [Taiyuan SHANXI RIBAO in Chinese 26 Feb 82 p 1] 9621

CSO: 4007/317

ILLEGAL SUGAR PROFITEERING PUNISHED

Chengdu SICHUAN RIBAO in Chinese 30 Jan 82 p 1

[Article by Shen Wuzhong [3476 2976 1813]: "Resale of Sugar at High Price Brings Economic Punishment to Daxian Prefecture Units"]

[Text] Acting in coordination with municipal and county price units and industrial and commercial departments, the Daxian Prefecture Commodity Price Commission has meted out economic punishments to individual units that had resold sugar at high prices.

On two occasions in September 1981, the Zhaojia Amalgamated Industrial and Commercial Fruit Company in Daxian Prefecture bought 24,300 jin of sugar from Binlang Commune enterprises in Daxian at 0.80 to 0.81 yuan per jin and passed it along at the high price of 0.90 to 0.92 yuan to Daxian farms, Dazhu County commune and brigade enterprises, and to Bazhong County agricultural, industrial, and commercial units. It also sold some in Daxian markets at a retail price that was 0.24 yuan per jin higher than the national list price. After the Municipal Industrial and Commercial Bureau called a halt, it refused to change and sold another 1,500 jin of sugar. As a result of the aforementioned transactions, this company illegally gained a profit of 2,158 yuan. Acting in accordance with price policies, the prefecture and municipal commodity price commissions confiscated these illegal profits, and fined the company 700 yuan. Orders were also issued for the transfer at list price to beekeeping farms and horticultural farms in the prefecture for use in production 5,600 jin of sugar that had been frozen to offset state plan supply quotas.

The supply and marketing managing department for Weijia Commune enterprises in Dixian illegally bought 8,000 jin of sugar from outside the province, which it then sold at high prices and passed along to the Dixian commune and brigade enterprises supply and marketing company, deriving 609 yuan in illegal profits from the deals. The supply and marketing company, in turn, made wholesale sales to some retail outlets in Daxian Municipality, making a profit of 250 unit therefrom. The Prefecture Commodity Price Commission decided to confiscate the illegal profits in entirety, to fine the supply and marketing management department of Weijia Commune enterprises 300 yuan, and to fine the supply and marketing company of Dixian Commune and brigade enterprises 200 yuan.

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CSO: 4007/287

SITUATION REPORT GIVEN ON THREE LIVESTOCK RAISING ZHOUS

Chengdu SICHUAN RIBAO in Chinese 28 Jan 82 p 1

[Article by Grasslands Department, Provincial Animal Husbandry Bureau: "Ganzi, Aba, and Liangshan Zhou Animal Husbandry Industry Production Situation Good. Various Forms of Responsibility Systems Established; Scientific Livestock Raising Practiced"]

[Text] Guided by the spirit of the 3rd Plenary Session of the 11th Party Central Committee, party and government units at all levels in Ganzi, Aba, and Liangshan Zhou continue to carry out the spirit of the Provincial CCP Committee Sanzhou Work Conference, to implement production programs, to establish production responsibility systems, and to practice scientific livestock raising for a fine situation in animal husbandry production. In 1981, livestock on inventory numbered 13,352,000, and livestock removed from inventory numbered 2,149,000, a 357,000 head increase over 1980, for a meat output of 129,070,000 jin, which was an increase of 65.75 million jin. Large livestock animals, sheep and goats raised by herdsmen or peasant commune member households numbered 3.27 million, a 19 percent increase over 1980.

Production accounting units in more than 90 percent of the rural communes and production brigades in these three zhou have established various forms of animal husbandry responsibility systems linked to output. In pastoral areas, mostly responsibility systems of specialized contracting, fixing output quotas based on groups, on individual workers, or on households have been established under uniform management, with "five fixeds and one reward", calculation of compensation linked to output. In semi-farming semi-pastoral areas, responsibility systems of "double contracting" and linking output to groups have been instituted. In addition, responsibility systems linked to output have been combined with technical promotion responsibility systems and cadre personal responsibility systems, which has helped implementation of various production measures and the promotion of science and technology, not only promoting livestock industry production, but also enhancing the building of the grasslands. Building of man-made grasslands amount to 77,000 mu; improved grasslands amount to 258,000 mu; and establishment of fine variety pasture grass bases amounts to more than 10,000 mu. Rodents and insects have been exterminated on more than 2 million mu. In 1981 operation of integrated herding, industrial, and commercial businesses increased. In 1981, the

Ruoergai Integrated Herding, Industrial, and Commercial Enterprise made profits of 2.81 million yuan for an average increase of 22.3 yuan per capita of the population engaged in agriculture and livestock raising. Hongyuan County's operations had 1.3 million yuan profits from sales in excess of plan from livestock product processing. Cadres and commune members said, "Taking the path of integrated herding, industrial, and commercial business benefits the state, the collective, and individuals, and is the path by which nationality areas cure poverty and become wealthy." In addition, Key livestock raising households and specialized households have begun to develop. Ma Yongming [7456 3057 2494], commune member from Waibei Commune in Huili County raised 80 sheep, seven large livestock, eight hogs, and 14 hives of bees for earnings in 1981 of about 4,000 yuan.

At the present time, the three zhous are in process of further implementing various party programs and policies for semi-agricultural semi-pastoral areas, and doing a solid job in the overwintering of livestock into spring to hasten development of the livestock industry.

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READJUSTMENT OF CROP PATTERNS, DIVERSIFICATION CREDITED FOR GREATER OUTPUT

Chengdu SICHUAN RIBAO in Chinese 29 Jan 82 p 1

[Article by Correspondent Ceng Xudong [2582 2385 2639]: "All-around Bumper Harvest for Liangshan Zhou Last Year. Equitable Readjustment of Internal Structure of Agriculture and Crop Patterns"]

[Text] Liangshan Yi Nationality Autonomous Zhou equitably readjusted the international structure of its agriculture and its crop patterns to win an all-around bumper harvest in agriculture during 1981. Throughout the zhou grain output increased and economic diversification developed fairly rapidly, output of staples such as sugarcane, tobacco, rape seed, silkworm cocoons, livestock and aquatic products increasing by from 2.9 to 39.3 percent.

In Liangshan Zhou, which is inhabited by more than 20 different nationalities, among them the Yi and the Han, though the mountains are huge, ravines deep, and climate complex, there are semi-tropical low hills and river valleys that produce mostly paddy rice and sugarcane. There are vast medium size mountain and semi-mountainous areas that produce prolific amounts of rice, wheat, and tobacco. There are vast tracts of frigid and temperate zone high semi-mountainous regions where water plants abound, and where grain as well as forestry and the livestock industry can be developed. There are frigid zone high mountain regions with dense forests and broad grasslands, and there are more than 340,000 mu of freshwater water surfaces. In 1981, all levels of party and government units throughout the zhou vigorously implemented a production program of "taking forestry and livestock raising as the key link in a combination of farming, forestry, and livestock raising for all-around development of economic diversification." They steadily carried out a readjustment of the internal structure of agriculture and crop patterns, and proceeded from realities to make suitable reductions in the areas sown to wheat, rice, and potatoes, using it for expansion of the growing of economic crops such as rape, sugarcane, tobacco, soybeans, and hot peppers, and for the reversion of cultivated land to forests and pasturage. They farmed scientifically, and not only did grain yields per unit of area rise tremendously, but total output also exceeded that of the preceding year. Moreover, income from economic diversification into forestry, livestock raising, sideline occupations, and fisheries increased 31.3 percent over the previous year.

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CSO: 4007/287

INCREASED DIVERSIFICATION IN AGRICULTURE REPORTED

Chengdu SICHUAN RIBAO in Chinese 29 Jan 82 p 1

[Article: "More and Faster Economic Diversification in Neijiang Prefecture. Collectives and Individuals Rise Together. 'Watermelons' and 'Sesame' Require Attention"]

[Text] In the course of leading economic diversification, party and government units at all levels in Neijiang Prefecture have diligently implemented party policies and have brought into full play the enthusiasm of both collectives and individual commune members to bring about a tremendous increase in output value from economic diversification. Despite the especially great flood disasters of 1981, the prefecture's total grain output still increased slightly over the previous year. Cotton, oil-bearing crops, and jute output increased tremendously, and most items in the planting and breeding industries overfulfilled plan. Statistics from the Prefecture Statistical Bureau show gross output value from economic diversification in the prefecture to have been about 680 million yuan, a 15 percent over the previous year. Average per capita income may reach 94 yuan, a net increase of 12 yuan over the previous year.

Neijiang Prefecture located in the Tuo Jiang basin has extremely superior conditions for development of economic diversification. As a result of readjustment of the internal structure of its agriculture and its crop patterns since the Third Plenary Session of the 11th Party Central Committee, substantial development has occurred in its economic diversification. But the collective has moved ahead rapidly while development of commune member household sideline occupations has been slow. Following investigation and study last spring, the Prefecture CCP Committee and government administrative offices put forward ideas and actions to be taken for vigorous development of economic diversification, requiring the bringing into full play of the enthusiasm of collectives and individuals, with the organization under unified production team and production brigade leadership of various kinds of specialized teams, and specialized groups, and the designation of specialized households and specialized workers for teh signing of contracts. The prefecture further promoted the "four specializations and one contract" responsibility system linking calculation of compensation to output. It encouraged voluntary combination in production teams practicing large scale assignment of responsibilities for joint operations among households. All projects that lend themselves to performance by individual commune members, commune members should be allowed to perform to the maximum possible extent, production teams helping out with organization or providing support. A policy of adptation of general methods to local situations, broadening avenues, making the most of advantages, and accentuating strengths while avoiding weaknesses was emphasized. While maintaining ecological balance, attention was given to what grows in the ground, flys in the air, swims in water, and is raised at home. Equitable provisions were made for planting, breeding, collecting, and processing.

With the implementation of policies, enthusiasm of cadres and the masses made an upsurge, and the path for practicing economic diversification was wider and methods greater. In 1981, in addition to giving attention to staple economic crops and key economic diversification projects, the prefecture's farflung cadres and masses devoted serious attention as well to traditional non-staple economic crops and sideline occupations, achieving both the holding of "watermelons" and the picking up "sesame seeds" at the same time, and obtaining economic benefits from "seeking wealth in every quarter, and having treasure come in from everywhere." The prefecture's economic crops of cotton, rape, peanuts, jute, hot peppers, ginger, watermelons, mushrooms, and citrus fruit, as well as forestry, and hogs, sheep and goats, rabbits, chickens, ducks, and geese all increased over 1980. Cotton increased 15.8 percent; rape increased 28.9 percent; peanuts increased 20 percent; jute increased 23.6 percent, ginger increased 3.4 fold; and watermelons increased 1.3 fold. Very great development also occurred in commune member household sideline occupations. On the basis of investigations conducted among 366 commune member households in eight counties and one municipality in the prefecture, the Prefecture Statistical Bureau reported that last year commune member household sideline occupation earnings increased by between about 20 and 30 percent over the previous year.

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AUTHOR: ZHANG Yan [4545 3238]

ORG: None

TITLE: "Nowcasting of Disastrous Severe Storms and Joint Preparations"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 2, 10 Feb 82 pp2-4

ABSTRACT: Currently, the extremely important problem in weather forecasting is the sudden development of very damaging storms, which are often accompanied by violent wind, heavy rain, hail, thunder, tornado, and even mountain torrents. Although more have been learned about such swift change of weather, to predict it remains a difficult problem. For the purpose of providing some warning, the work of nowcasting has been given considerable attention in foreign countries, such as the USA, Japan, England, Canada, etc. In Aug 81, the world meteorological organization held a conference in Hamburg to discuss the science of nowcasting. Some Japanese and US specialists claim that this is the direction of service of weather forecasting in the 80's. Following a brief introduction of the condition of nowcasting reach and practice in foreign countries, similar work in China, primarily in Hunan, Anhui, Jilin Railway system, and some urban weather stations are briefly described. Such nowcasting experiments are being carried out in the 4 years of 1977-80 and have become a very popular program. The rate of accuracy for predicting rains may reach 84 percent and the duration of prediction before the event is 62 minutes on the average.

AUTHOR: CHEN Changyu [7115 2490 3022]

ORG: Agricultural Meteorology Experimental Station, Wuwei Prefecture Bureau of Meteorology, Gansu

TITLE: "Climatological Features of the Dry Wind in the Hexi Corridor Region of Gansu Province"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 2, 10 Feb 82 pp 23-25

ABSTRACT: The dry wind is one of the major damaging meteorological phenomena affecting high and stable yield of wheat in the Hexi Corridor. It usually occurs in the first part of Jun to the early to middle part of Jul, during the blooming-milk ripe stage of wheat. It can cause various degrees of damage to more than 2/3 of the 4 million mu of wheat in these 15 counties. The yield reduction may reach 10-20 percent. Based upon observational and experimental data of the past several years and related survey reports, this paper analyzes the meteorological characteristics of this dry wind and attempts to classify it. Preventive measures, including afforestation to stabilize the sand, protect the cropland, and improve the microclimate of the fields, sprinkling ash-water on wheat plants, lightly irrigating wheat fields 1-2 days before the dry wind, and mixing seeds with such chemicals as cycocel, calcium chloride, etc. in solutions before planting are proposed.

AUTHOR: ZHANG Hanlin [1728 3352 3829]

ORG: Jiaxing Prefecture Weather Station, Zhejiang Province

TITLE: "Long Term Forecasting of Scab Fungus Disease of Wheat"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 2, 10 Feb 82 p 25

ABSTRACT: In recent years, the author and colleagues analyzed and compared weather data with information concerning the condition of the scab disease of wheat to formulate a system of forecasting this disease. The analysis and study disclose that the extent of this disease has a close relationship with the average temperature of September of the previous year and the rainfall of the winter, from Dec to Feb. The experimental equation of $J_1 = T + KR$ is obtained: where T is the average temperature of Sep; K is an experience coefficient = -0.0437; R is the winter rainfall. Through computation, the following indices are produced: (1) If $T \geq 24^\circ C$, it is a mild year for scab; (2) If $J_1 < 15.35$, it is a severe year for scab; (3) If $J_1 > 15.35$, it is a mild year for scab. These 3 indices have been used to check the condition of scab for several recent years to prove them to be basically accurate as a technique for predicting the condition of scab.

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I. GENERAL INFORMATION

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NORTH CHINA RAINFALL--Beijing, 13 May (XINHUA)--Northern China's winter wheat growing areas experienced rainfall from 10 to 13 May. Precipitation ranging from 10 to 40 millimeters was recorded in drought-stricken Shanxi, Hebei, Henan, western Shandong, northern Jiangsu and Anhui and in the southern part of Central Nei Monggol. Precipitation of more than 40 millimeters was recorded in Xing and Yuanping counties in Shanxi, Shenxian County in Shandong, and Xiaxian and Luanchuan counties in Henan. According to the Central Meteorological Station, the rainfall has alleviated the dry spell in the aforementioned areas and benefited winter wheat and spring crops. Rainfall in southern Shandong, southern Shanxi and southern Liaoning was generally less than 10 millimeters. [Text] [Beijing XINHUA Domestic Service in Chinese 0729 GMT 13 May 82 OW]

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GANSU

BRIEFS

MINQIN COUNTY HOGS--Lanzhou, 16 May (XINHUA)--Over the past 3 years Minqin County, Gansu, has increased the number of hogs in stock by more than 10,000 head a year. Last year the county raised over 130,000 hogs, an alltime high. [OW141131 Beijing XINHUA Domestic Service in Chinese 0052 GMT 10 May 82 OW]

COLD WEATHER FORECAST--A cold air mass has moved into the Hexi corridor, Gansu Province, from North Siberia in the Soviet Union. It is forecast that the weather in Gansu Province will become cloudy 11 and 12 May. Most areas will have light or medium rainfall and snowfall. Gannan Tibetan Autonomous Prefecture will have a heavy snowstorm. The temperatures in the North Dingxi Prefecture and in the east part of the province will drop 8 to 11 degrees. Those in other areas will drop 6 to 8 degrees. After the cold rainy days, the Hexi mountainous areas will be hit by severe frost on the mornings of 12 and 13 May. The east part of the province and the North Dingxi Prefecture will be stricken by frost on the mornings of 13 and 14 May. Except for southern areas of the province, other areas throughout the province will be affected by frost. [SK120919 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 11 May 82 SK]

CSO: 4007/416

METHODS TO SMOOTH FLUCTUATIONS IN LATE CROP NOTED

Guangzhou NANFANG RIBAO in Chinese 17 Mar 82 p 2

[Article: "How Can Great Fluctuations in the Late Crop Be Changed? Some Agricultural Specialists in the Province Have Made a Scientific Analysis of Reasons for Decreased Yields in the Late Crop During Any Given Year, and Feel that the Guiding Mentality Should Be to Establish Consistency and Then Work from Consistency for Increases"]

> [Text] Editor's Note: People may possibly ask, since now is the time for doing a good job of spring farming, why in the world should anyone seek out agricultural specialists and persons in charge in agricultural units to concentrate on the study of problems in late crop production? People who truly understand agriculture will realize that only through early study of this important problem can locking the barn after the horse has been stolen be avoided; only in this way can there be no missing out on the farming season, and only in this way can one talk of fighting a battle for which one is prepared. In another two months, it will be time to sow the late crop, and if specialists are asked then, it will be too late to do anything with their advice.
>
> Large fluctuations in late crop yields are a repetitious phenomenon in Guangdong Province's grain production. How to carry forward the achievements of "large upswings" in the late crop, and especially how to avoid a passive situation of "large downturns" is a crucial issue for late crop production. An historical analysis of this issue by agricultural specialists has provided some views that accord with science rather well, and this is a contribution to development of the province's agriculture. While they are doing a good job of spring farming, this will greatly help every jurisdiction do a good job of late crop production with more initiative and more foresight than in former years.

While doing a good job of current spring farming and production, how can preparatory work for the late crop be done early in order to change a situation of "large ups and downs" in late crop production? Recently the Provincial CCP Committee assembled in Guangzhou a group of agricultural specialists, scientific and technical personnel, and persons in charge of agriculture in each of the province's prefectures to discuss this problem. The chairman of the Standing Committee of the Provincial CCP Committee and concurrent director of the Provincial Agricultural Committee, Du Ruizhi [2629 3843 5347], gave a speech at the meeting. After seven days of repeated explorations, comrades attending the meeting came to the conclusion that the guiding mentality for late crop production should be "to establish consistency and then work from consistency for increases." Specific measures would require "accentuating advantages and avoiding disadvantages, with a combination of avoidance and resistance."

Since entering the 1970's, late crop production in Guangdong Province has been very inconsistent. During the period from 1970 to 1981, 7 of the 12 crops had reduced yields, the degree of decrease sometimes being very great. For example, in 1975 late crop output for the province as a whole totaled 14.4 billion jin, declining in 1976 to 12.9 billion jin, a drop in output of 1.5 billion jin. In 1977, total output from the late crop again rose to 16.38 billion jin only to fall again in 1978 to 13.79 billion jin, a drop of 2.5 billion jin. A comparison of 1981 with 1980 also showed a drop of about 2 billion jin.

Formerly, in analyzing reasons for reduced output from the late crop, quite a few comrades took into consideration only abnormal changes in the weather. At this meeting, many comrades acknowledged that weather abnormalities had a very great influence on late crop output; however, if work is done well in every aspect, small disasters can be made to result in no decrease in output, and large disasters can be made to result in only small reductions in output. Comrades from Zhaoqing Prefecture made a concrete analysis of a drop in output totaling 1.16 billion jin in the years 1976, 1978, 1979 and 1981 in a search for contributory factors of many different kinds. First was an estimated loss of about 480 million jin of output attributable to unfavorable weather about which little could be done. This amounted to 41.4 percent of the total drop in output. Second was damage resulting in a drop in output caused by insufficient coordination of technical measures, such as insufficiency of organic fertilizer, improper fertilization, and retrogression in seedling propagation techniques. This caused a drop of about 400 million jin or 34.5 percent of the total drop in output. Third was late sowing and late transplanting; weak seedlings with poor resistance, small heads of grain with a small number of grains per head, producing a drop in yields. In 1981 when the late crop was transplanted latest, the drop in output amounted to about 280 million jin, or 24.1 percent of the total drop in output. Plant protection specialist Wu Shangzhong [0124 1424 1813] noted that natural conditions for the late crop were fairly severe in 1981, and that in addition to damage caused by typhoons, flooding and cold, damage from diseases and insect pests was also conspicuous. Statistics show an area of more than 100 million mu (times) in the province stricken with rice diseases and insect pests, and losses to paddy resulting from blast, bacterial blight and sheath and culm blight are estimated to have amounted to 650 million jin. From this it may be seen that drops in late crop output cannot be attributed entirely to natural disasters, and that one cannot regard only wind and water as disasters.

After the specialists had made a comprehensive analysis of reasons for drops in the late crop, they made a point of saying that a good job of late crop production required a guiding mentality of "establishing consistency and then working from consistency for increases." The major contradiction in late crop production at the present time is lack of consistency, and this is particularly the case in central grain producing regions. The central region grows about 20 million mu of paddy rice, and if output there could be made consistent, it would be possible to build from consistency toward high output. The area plays a decisive role in winning a bumper grain harvest for the province as a whole. On the basis of weather conditions, the specialists set the safe heading periods for late crop paddy rice, dividing the entire province into three zones as follows: the North Guangdong Mountain Zone, being the northern mountain zone from the mouth of the Lian Jiang in Yingde west to Guangning, and Huaiji, and east to Fogang, Xinfeng, Heping and Xingmei, where the "cold dew wind" arrives early and where opportunities are small for a rise in temperatures for the late crop thereafter. Here mostly "avoidance" methods should be used, meaning that heading of the late rice crop should take place before the arrival of the "cold dew wind." The Qiong-Lei Zone, including the Leizhou Peninsula and Hainan Island, where the main danger is from typhoons and torrential rains, waterlogging and water stagnation, requiring "resistance" as the main method to be used in a combination of "resistance" and "avoidance." Varieties with strong resistance should be selected. The central zone, including Shantou, Huiyang, Foshan, Zhaoqing, Meixian and a part of Guangzhou, which is affected by both typhoons and torrential rains and the cold dew wind, as well as low temperature cold damage. Measures required are "avoidance" principally in a combination of "avoidance" and "resistance." This means that arrangements should be made so that the heading period for rice comes around 10 October, and so that the period of full heading of sitting autumn varieties is before 1 October. In addition, varieties with strong resistance should be selected, and scientific farming and management should be intensified.

In order to achieve the goals of "avoidance" and "resistance," comrades attending the meeting believed that it is necessary, first of all, to achieve an equitable crop pattern for various varieties, i.e., a suitable matching of early, intermediate and late ripening varieties with no growing of a single variety over a wide area, and particularly avoiding the growing of a late ripening variety over a wide area. Otherwise, avoidance of disastrous weather would be difficult. Next, everything has to be done in its proper order to achieve properly early sowing and transplanting. Third, healthy body growing methods must be used, propagating sturdy seedlings and fertilizing adequately with base fertilizer to lay a good foundation for increasing seedling resistance.

In order to implement measures for consistently high yields from the late crop, the Provincial Agricultural Committee required all prefectures to act in accordance with new circumstances in rural villages to strengthen leadership of agricultural production, to improve methods for serving agriculture, and to restructure agriculture technical service organizations for genuine achievement of reliance on policies and science to win bumper harvests from the late crop.

9432
CSO: 4007/334

BRIEFS

SUGAR FARMING TECHNOLOGY--Work has begun in China's Guangdong Province on a 500-hectare project to introduce Australian sugar farming technology to China. The project, resulting from cooperation between Australian trade officials and private consultants, is regarded by the Chinese Government as an important step toward mechanization and efficiency in China's growing sugar industry. Radio Australia's Beijing correspondent Richard Thwaites says it is worth close to a million dollars in form of equipment by Australian companies. Last year, China bought around 100,000 tons of sugar from Australia. [Text] [Melbourne Overseas Service in English 1230 GMT 3 Apr 82]

CSO: 4020/130

BRIEFS

AUSTRALIAN EXPERTS SERVICES--A team of Australian experts is leaving for southeast China next month to act as long-term advisers on a forestry project. The project, near Nanning in the Guangxi Zhuang Autonomous region, aims to provide training in low-cost methods of increasing forestry production. It is one of two projects that have already begun under the technical cooperation for development agreement signed last October by China and Australia. The other project underway is in Beijing where seven Australian advisers are helping to improve teaching methods in the English language at a foreign language institute. The long-term aim of this project is to enhance the English language skills of Chinese technical personnel who have to study abroad in English. So far, China has requested Australian assistance in about 40 projects under the technical cooperation agreement. Most of the projects would be in agriculture, such as soil conservation, pesticide control and beef and dairy production, but feasibility studies are being undertaken on a wide range of other projects, including some in the health field, in civil aviation, in petroleum exploration and in (?auditing). [Text] [BK081205 Melbourne Overseas Service in English 0830 GMT 4 Apr 82]

CSO: 4020/130

POLICIES ON COMMUNE-BRIGADE RUN ENTERPRISES ANALYZED

Shijiazhuang HEBEI RIBAO in Chinese 24 Mar 82 p 2

[Article by Political Study Department, Provincial Commune and Brigade Enterprises Bureau: "Questions and Answers About Several Commune and Brigade Enterprise Policies"]

[Text] Question: What is the present program for development of commune and brigade enterprises?

Answer: Commune and brigade enterprises must adhere to a socialist orientation, actively produce products needed by society, principally serve agricultural production and the people's livelihood, but also serve large industry and exports. Development of commune and brigade enterprises requires adaptation of general methods to local situations in accordance with availability of local resources and social needs. There should be no attempts to "make bricks without straw," no operation of processing industries with excess production capacity, no competition for raw materials and power with large industrial enterprises, and no destruction of national resources. They may also actively experimentally operate integrated agricultural, industrial, and commercial enterprises.

Question: What is the scope of commune and brigade enterprise operations?

Answer: The scope is very broad and the variety of matters numerous. A few major ones are provided here for reference. There is farming and breeding of aquatic products; agricultural products processing industries; industries making things for use in agriculture such as manufacture of small farm machines and implements and the repair and renovation of farm machines; fuel, and processed and raw materials industries and power industries, the operation of hydroelectric power stations and pit head thermal power stations below 12,000 kilowatts being permitted. They are allowed to undertake, on behalf of large industries, production of diffuse spare parts and of some products. Depending on needs and capabilities, they organize construction teams, and transportation, loading and unloading teams to undertake city and countryside capital construction, hauling, loading and unloading tasks. Where resources and skills permit, they may produce traditional handicrafts and export items. If local requirements exist, they may operate businesses or service trades such as tailoring, repairs, lodging houses, food supply, or trade warehouses.

Question: What consideration does the country show commune and brigade enterprises in tax collection matters today?

Answer: In order to foster development of commune and brigade enterprises, the state practices a policy of low taxes and exemption from taxes. Specific provisions are as follows: Products produced by commune and brigade enterprises for direct use in agriculture, as well as vocational earnings from items that commune and brigade enterprises make to serve the livelihood of their own commune members, may be carried on the books as specific items and services, and are thus exempt from collection of industrial and commercial taxes. Except for the production of items taxed at a high rate such as tobacco, spirits, sugar, cotton yarn, and wristwatches, on which industrial and commercial taxes are levied in accordance with regulations, income from the production of other goods and from vocations, as well as sugar produced by places in which processing capacity is inadequate and for which taxation in accordance with regulations would work hardships, are given reduction or exemption from industrial and commercial taxes for periods of less than a year. The point at which taxes begin to be levied on commune and brigade enterprises has been changed from the former 600 yuan of income for the entire year to 3,000 yuan, the tax rate being 20 percent. All earnings below the tax levy point are exempt from taxation. Except for enterprises that compete for raw materials with large advanced industrial enterprises and enjoy considerable profits, which are taxed as income according to regulations, depending on indivudual circumstances, other newly opened enterprises are given a 1 to 2 year exemption from taxes. (In cases where following the period of tax exemption payment of taxes would work hardship for specific enterprises, another year's exemption from taxes may be granted.) Profits derived from production of items that serve agriculture directly such as chemical fertilizers, pesticides, veterinary medicines, and the manufacture of farm machinery and implements, and profits that derive from enterprises that directly serve commune members' livelihoods such as beancurd workshops, flour mills, soy sauce workshops, processing of grain and cotton, barbershops and tailor shops may, if special consideration is genuinely needed, be listed as products and services and, following approval by the Provincial People's Government, may be exempted from income taxes. Commune and brigade enterprises in border region counties and national minority autonomous counties (or banners) shall continue to be exempt from payment of income taxes from 1979 until 1983. Disaster area communes and brigades engaged in production of relief items may receive special consideration for a fixed period of time for reduction or exemption of industrial and commercial taxes, and income taxes. Commune and brigade enterprises are to strictly carry out revenue collection policies, no cheating on taxes, evasion of taxes, or late payment of taxes due permitted.

Question: How should commune and brigade enterprise profits be distributed and used?

Answer: The welfare of the country, the collective and individuals must be taken into consideration. First, taxes must be paid and loans that are due repaid. Withholdings for the enterprise are to be assured in order to expand reproduction. Distributions of returns to brigades are to be assured to raise commune members' standard of living. Depending on earnings from agriculture, industry, and sideline occupations, equitable arrangements should be made for capital construction investment and collective accumulations. On the basis of the foregoing principles, it is necessary to proceed from realities, to adapt general methods to specific places and specific enterprises, and through mass discussion to democratically determine the proportions to be withheld for enterprise expansion of reproduction, for payment to communes and production brigades as public accumulation funds and public welfare funds, and for distribution to production team commune members.

Use of enterprise profits remaining has to proceed from realities in the enterprise, democratic discussions being held to decide proportions for augmentation of circulating capital, use in increasing fixed assets, technological innovation, improvement of equipment, use for public welfare and for welfare services. Use of public welfare and public accumulation funds tendered to communes and production brigades also has to be decided by discussion of commune member representative assemblies, specific purposes being agreed upon. No individual leaders may arbitrarily approve use of commune and brigade enterprise profits; they may not squander or waste them; and they may not use them to invite people to dine or to provide gifts. Such unhealthy tendencies are to be resolutely corrected.

Question: What forms of responsibility systems should commune and brigade enterprises promote now?

Answer: Hebei Province's commune and brigade enterprises are spread out over a wide area, and their conditions vary. They should adapt general methods to local situations and to local enterprises in formulating production responsibility systems. The following several forms are fairly universal at the present time:

First is commune and brigade responsibility systems instituted in enterprises. Their main forms are as follows: Assumption of sole responsibility for profits. All that complete profit plans on time are provided equitable remuneration with no bonuses and no penalties. Overfulfillment of profit plans and unfulfillment of profit plans is proportionately rewarded or penalized. Distributions of profits is done on the basis of profits earned, a suitable proportional distribution being set, the more earned the greater the distribution; the less earned the smaller the distribution. Large-scale sole assumption of responsibility is practiced, the amount of profits to be paid to higher authority set and all profits in excess of that amount reverting to enterprises for their disposition, communes and brigades not being further involved.

Second is responsibility systems within enterprises for workshops, groups (or teams), and individuals. Their most common forms are: Overfulfillment of piece rate wages: Equitable calculation of production norms for each employee on the basis of different kinds of work done, a standard wage being paid for fulfillment of norms, additional wages to be paid in cash for overfulfillment of norms on the basis of quantity, quality, and consumption criteria. For failure to fulfill norms, a docking of wages figured on the basis of conversion to monetary terms of shortfalls in product output. For both group and team accounting and assumption of sole responsibility for profits, the enterprise fixes on workshops, groups and teams the various output value, profit, and production expense criteria, and when they are overfulfilled, a certain amount of the overfulfilled portion is withheld for bonuses. The form of responsibility system of independent accounting, responsibility being placed on individuals, is the same as the method of assumption of sole responsibility in the figuring of profits. It is generally used for independent work such as for chauffeuring, electrical work, maintenance work, and service industries. Floating wages: One kind of floating wage provides payment of a basic wage plus a wage that fluctuates up and down depending on how well the enterprise produces. Another kind provides for no basic wage, but rather a certain proportion is withheld from gross profits as wages for workers, distributions made in accordance with task fulfillment by individual workers. In sole responsibility for profits, all overfulfillment goes to the person bearing the responsibility. The enterprise enters into a contract with individuals, which sets the amount of sums to be paid the collective, all excess to go to the individual, commune members being individually responsible. Unified management with dispersed processing and withholding of profits: In this method, the enterprise assigns uniform production tasks to commune members within the enterprise, and also provides them with the same raw materials, carries out uniform inspection of goods quality prior to acceptance, and conducts centralized marketing and final settlement of accounts. From profits derived, a proper management fee is withheld, the remainder going to commune members individually.

Question: What principal policy regulations should the state have for commune and brigade enterprises engaged in processing of agricultural products?

Answer: All farm products that lend themselves to rural processing in accordance with rational economic principles should gradually come to be processed by commune and brigade enterprises. The setting of equitable base procurement figures for agricultural products can be done through contracts, all in excess of these base figures to be disposed of by communes and brigades as they see fit. This will provide commune and brigade enterprises with a realiable source of raw material for processing while, at the same time, commune and brigade enterprises can do processing for the state.

Question: What regulations are there about integrated commune and brigade enterprises?

Answer: The organization of integrated enterprises must certainly proceed from development of production, maintain the principle of voluntary participation, combine the lower and upper levels, proceed from the easy to the difficult, gradually develop participation in integrated operations, and not be limited to individual trades or industries region, or system of ownership. However, one cannot arbitrarily change the subordinate relations in the system of ownership of all parties to the integration, nor the debtor or creditor relationships with banks. If changes are necessary approval of financial or banking units has to be obtained. Also necessary is equality and mutual benefit with consideration of the economic benefits of all parties. Agreements or contracts should be signed that set the proportional sharing of economic results on the basis of what each party has provided including funds, raw materials, skills, workforces, worksites, equipment, and facilities. Diverse forms of integrated operations should be permitted with no rigid insistence on certain forms. So long as fulfillment of plan tasks handed down by the state are assured by the various forms of integrated enterprises, some of the products in overfulfillment of plan and products produced from raw materials that the enterprises have assembled themselves may be purchased by business or materials departments, and some may be disposed of as the enterprise sees fit in accordance with state policies, one enterprise supplying the needs of another.

Integration of raw materials producing areas and processing areas is to be promoted. Planned allocation quotas for raw and processed materials handed down by the state must be fulfilled first. Supply of raw materials for production to be used within integrated enterprises need not go through the intermediary links of business, supply and marketing, and materials, but direct allocation for supply may be practiced. Distribution of raw materials by the state is still done on the basis of the subordinate relationship between two parties, some being supplied directly, and some being organized for supply on site or nearby by commercial, supply and marketing, or materials departments. Commune and production brigade enterprises can also gradually try operating in conjunction with production teams and commune member households integratedly operated vicilian run enterprises, dividing up economic fruits. Wages and welfare benefits for all employees must be paid in accordance with original stipulations, and changes are not to be made lightly.

Once integration has taken place, unless discussion and agreement takes place about the original cooperative relationship among all parties, no ony may take it upon himself to break it. So long as conditions of the cooperative agreement are carried out, relationships with other enterprises outside the integrated unit may be conducted. Enterprises within integrated bodies organized on the basis of specialized cooperation may not "eat out of a large common pot." They must practice independent accounting.

9432
CSO: 4007/368

BRIEFS

FISH FARMING--Heilongjiang Province plans to invest 6 million to help communes and brigades develop fish farming. [Words indistinct] farming in the province. By the end of 1981, there were 2,400 fish-farming units run by communes and brigades in 69 municipalities and counties. Water areas for fish-farming totaled 1.64 million mu. The province plans to expand water areas for fish-farming to 2.25 million mu this year. [SK060633 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 4 May 82 SK]

AFFORESTATION PROJECTS--Heilongjiang Province overfulfilled its annual afforestation and sapling cultivation plan this spring. As of 11 May, the province had afforested 4 million mu of timber, fuel, economic and shelter forests, overfulfilling the plan by 14.3 percent, and cultivating 650,000 mu of saplings, overfulfilling the plan by 9 percent. Aside from this, 48 million trees and 17 million saplings had been planted and grown voluntarily by the people in the province. In the first year of the all-people afforestation campaign, as many as 9.6 million people have participated in afforestation activities--doubling last year's figure. [SK131220 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 12 May 82 SK]

PADDY FIELDS--Following the expansion of paddy rice fields in the past 3 years, Heilongjiang Province expands again paddy rice fields by 380,000 mu this year, bringing total paddy rice acreage to 4.99 million mu. There are over 10,000 mu of paddy rice fields in each of Suihua, Qingan, Nehe, Tailai, Gannan, Mulan, Huachuan, Tangyuan, Mishan, Hailin and Jidong counties. [SK070522 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 6 May 82 SK]

SOWING OPERATIONS--Bayan County, Heilongjiang Province, one of the marketable grain bases in the province, has made great progress in field crop sowing this spring. According to statistics, as of 7 May the county had sowed over 2.1 million mu of field crops and prefulfilled its field crop sowing plan by 4 days. The county's sowed acreage with improved varieties of grains this year accounts for 95.3 percent of the acreage of soybean and grains, surpassing the 1981 figure by about 20 percent. [SK120700 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 10 May 82 SK]

STRONG GALES--A gale which was as strong as grade 12 with a speed of 34 meters per second hit Shuangyashan on 11 May. This was the strongest gale ever recorded in the city. This strong gale destroyed some houses and 200,000 square meters of plastic sheet coverings for spring vegetables. The Shuangyashan Municipal CCP Committee and government are taking actions to combat disasters and send relief to the disaster area. [SK120827 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 11 May 82 SK]

WATER CONSERVANCY PROJECT--Subsidiary projects to harness (Anbanghe), (Yangyuanhe) and (Jielahonghe) rivers in Sanjiang plain, Heilongjiang Province, are under construction with state investment. Owing to narrow river courses and poor water-draining capacity, the 7.4 million mu of farmlands along these three rivers are often flooded. Though the main courses of these rivers were dredged a few years ago, water accumulating on farmlands cannot be drained due to the poor subsidiary irrigation systems. Construction of these subsidiary projects will be completed in 3 to 5 years. Over 5.5 million mu of farmlands will be aided. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 11 May 82 SK]

CSO: 4007/416

GOALS FOR BREEDING COTTON FOR JINGZHOU PREFECTURE DISCUSSED

Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 1, Jan 82 pp 9-11

[Article by Fu Hengqian [0265 1854 6197] of the Jingzhou Prefecture Agricultural Zoning Office: "Several Viewpoints on the Cotton Breeding Goals in the Jianghan Plain"]

[Text] The Jianghan Plain is one of our nation's major cotton producing regions. The natural conditions are superior. Take Jiangling County as an example; the frostless period is as long as 270 days. The first day of frost for an 80 percent guaranteed rate of yield is 16 November. The last day of frost is 21 March. This provides a great productive potential for cotton which has an unlimited growth characteristic. To develop the superiority of the climate, and to develop the advantages and avoid the shortcomings, we should plant crop varieties that can fully utilize the effective light and heat resources of the locality and those varieties that have a strong adaptability to the unfavorable factors, so that the predetermined goal of "spending less money to realize large gains" can be realized. Some views on the cotton breeding goals for the Jianghan Plain are proposed here for discussion.

1. Reserve Strength of Intermediate Maturing Varieties

The cotton breeding goals for the Jianghan Plain generally emphasize early maturity and a clustered plant type suitable for dense planting and for the development of agricultural mechanization. It has always been believed that the Delta Pine cotton No 15 has a slightly late maturation time, therefore a lot of effort has been directed toward early maturity, while the selective breeding of intermediate maturing cotton varieties with reserve strength has been neglected. According to meteorological statistics of 27 years from 1954 to 1980 compiled at the Jingzhou Prefecture Meteorological Station (Jiangling), the average temperature of each 10-day period in September is always above 20°C. This is very beneficial to the growth and development of cotton fibers. The average temperatures of each 10-day period in October are all above 15°C. This is higher than the lowest temperature of 15°C required for the growth and development of fibers. Although this is not sufficiently ideal, it is enough for the fibers to develop fully. The average number of rainy days in September is 8.7. The amount of rainfall is 85.3 millimeters. The average number of rainy days in October is 9.3. The amount of rainfall is 76.4 millimeters.

This means, the weather in September and October consists mainly of sunny days. The temperature is high, sunlight is sufficient, and there is some rainfall. These are favorable to the formation and thickening of cotton fibers. Therefore, under the prerequisite of striving for more summer bolls, the Jianghan Plain has a superior climatic condition to produce several more effective autumn bolls. Cotton breeders should not neglect this climatic condition when selectively breeding new cotton varieties.

The flowering and budding periods of cotton in the Jianghan Plain frequently encounter plum rains. The boll forming period frequently encounters torrential rains, drought, waterlogging and attacks by diseases and insect pests. In addition, the measures of cultivation are sometimes inappropriate, which frequently causes massive shedding of cotton buds and bolls during the early period. If the reserve strength of a cotton variety is poor, its unlimited growth potential will be limited, and there will not be much hope for producing several more autumn bolls and the yield will not increase.

In the past, some people believed that cotton varieties with a strong reserve strength matured late. This insinuates a derogatory meaning, and is not appropriate. The concept that intermediate maturing varieties mature late should be corrected to the belief that intermediate maturing varieties have a strong reserve strength.

Planting intermediate maturing cotton varieties with a strong reserve strength should also be combined with corresponding techniques of cultivation. A strong reserve strength does not mean to let cotton grow blindly without limit. It must be combined with appropriate trimming, topping, removing the terminals of the branches to control horizontal growth and to control the growth of ineffective cotton bolls. The cotton plants of ordinary varieties with a strong reserve strength are relatively tall. The row distance should be appropriately widened or the plants should be planted in alternating wide and narrow rows. The method of fertilization should also be based on stimulating early development and steady growth to form more summer bolls so that the superiority of producing more autumn bolls can be fully developed.

2. Strong Resistance to Adversity

(1) During the seedling period, cotton can resist a lot of rain and low temperatures: The pattern of the need for water throughout the growth period of cotton is that it requires less water during the seedling period, more water during the budding and flowering periods and less water during the boll opening period. The physiological consumption of water during the seedling period (the first 10 days of May to the first 10 days of June) is about 50 millimeters, constituting about 15 percent of the whole growth period. According to meteorological data from 1955 to 1979 at Tianmen County, the amount of rainfall from the first 10 days of May to the first 10 days of June is 213.9 millimeters, four times the physiological need for water. The greatest amount of rainfall was in 1970, which amounted to 8.5 times, and the least amount of rainfall was in 1965, which amounted to 2.03 times. Also according to statistics of the Jingzhou Prefecture Meteorological Station (average from 1954 to 1980), the amount of rainfall during the same period was 193.9 millimeters, slightly less than that in Tianmen County. The average number of rainy days reached

17.9. The largest number of days reached 26 in 1973. Rainfall is not only plentiful during the seedling period, it is frequently accompanied by a cold front and low temperatures, thus weak seedlings, diseased seedlings, stiff seedlings and dead seedlings often occur seriously. To reduce the degree of damage by an abundance of rain and low temperatures, the most economical and effective method is to selectively breed varieties with a strong resistance to adversity. The Delta Pine No 15 and Eguang cotton varieties planted for a long period in the Jianghan Plain come from the southern part of the United States around 32°N latitude and cotton planting regions below 150 meters above sea level. This region is similar to the Jianghan Plain which is at about 31°N latitude and below 100 meters above sea level. The growth period of cotton is relatively close. But, the southern cotton planting region of the United States is near the Gulf of Mexico. It does not have the unfavorable weather of low temperatures, an abundance of rain and frequent cold fronts during the seedling period as does the Jianghan Plain. Therefore, the varieties selectively bred do not need to have a strong resistance to adversity during the seedling period. Therefore, the cotton varieties introduced from this region in the United States are not suitable for direct utilization in the Jianghan Plain. They should be modified so that they can gradually adapt to the climatic conditions of more rain and low temperatures during the seedling period. Varieties with a weak growth trend during the seedling period and with poor uniformity should be included as the major items for selective breeding.

(2) Tolerance to drought and waterlogging during the flowering and boll forming periods: In July and August, summer drought occurs frequently in the Jianghan Plain. At the same time, each year, drainage is poor because of torrential rains. Parts of the cotton fields are frequently affected by waterlogging. If varieties with a strong growth trend during the flowering and boll forming periods are planted, several more autumn bolls can be produced, and within a definite limit, this can reduce relative loss. The Jianghan Plain is situated in the alluvial plain along the two banks of the Changjiang and Hanshui rivers. Although there are sufficient water sources for irrigation, limited irrigation facilities must first guarantee the need for water for the more than several million mu of paddy rice. Also, most of the cotton fields as yet are still level over large areas but uneven in small areas, and the effectiveness of irrigation is poor. In addition, in Jingzhou Prefecture alone, there are 1.21 million mu of cotton fields which do not have sources of water. This requires that the cotton varieties have a stronger tolerance to drought and waterlogging.

3. Larger Total Number of Bolls per Mu

The yield of cotton consists of the number of bolls per mu, the weight of the bolls and the gin turnout. The abundance of the number of bolls is the foundation for high yields. In the Jianghan Plain, summer bolls are the basic factor that constitutes the yield of cotton. Therefore, striving for more summer bolls is the main direction to guarantee stable yields. But striving to produce several more autumn bolls on this basis is where the important potential for continually increasing the unit yield is, and this must not be overlooked.

4. Weight of the Boll Should Be Above 5 Grams

Viewing the breeding of cotton of the world's major cotton planting nations, we see that they all emphasize the selective breeding of large bolls. The Soviet Union is popularizing the Tashkeng No 1, 2, 3 varieties. These are crossed and bred from the large boll variety C-4727 as the main parents. The bolls of Tamcot and such varieties introduced into our nation in 1972 from the United States all have an average weight of over 5 grams. The weight of the boll of Lumian No 1, which has served importantly in cotton production in Shandong Province, is also over 5 grams. The weight of the boll of the Eguang cotton planted massively in our province averages only 4.32 grams in the 1978 and 1979 province-wide regional tests. Therefore, its yield cannot be easily increased. As we establish the goals of breeding, we should include the requirement that the weight of the boll should not be less than 5 grams as an important content. When making selections in the fields, we must grasp this requirement tightly.

5. A Gin Turnout of About 40 Percent

The ability of Delta Pine No 15 to be planted in China's Changjiang river valley and even widely in the Huanghe river valley for a time is inseparable from the characteristic of a high gin turnout of this variety. Our province introduced a massive amount of Eguang cotton in 1964 to replace the Delta Pine cotton No 15 because it had become impure and degenerated. At the time, increased yields were realized mainly because of the high gin turnout. When establishing the goal of breeding, the gin turnout should not be lower than the level of the original variety of Eguang cotton.

6. The Length of the Fiber Should Not Be Shorter than 29 Millimeters

The National Cotton Science and Research Conference held in 1978 established the criterion that the length of the fiber of cotton bred inland should not be less than 29 millimeters in main body length. This is suitable for the Jianghan Plain and it should be managed well. When making selections in the field, the length of the fiber should not be relaxed one bit.

In general, the goal of cotton breeding in the Jianghan Plain is to fully utilize the long growth period and the clear climate of the locality. Also, the goal should be to breed varieties which have a relatively strong adaptability to the abundance of rain and low temperatures during the seedling period, summer drought and high temperatures or waterlogging, and varieties that can produce several more good quality autumn bolls on the basis of early development and steady growth, thereby producing many summer bolls, so that the goal of truly producing more bolls, large bolls, a high gin turnout, long fibers and good quality fibers and high and stable yields can be realized. Only such new cotton varieties can make greater contributions to cotton production in the Jianghan Plain.

9296
CSO: 4007/223

CROP DISTRIBUTION IN YUNYANG PREFECTURE REVIEWED

Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 1, Jan 82 pp 13-16

[Article by Yi Fadong [2496 4099 2767] of the Yunyang Prefecture Agriculture Bureau: "Opinions on the Crop Distribution in Yunyang Prefecture"]

[Text] Yunyang Prefecture is located in the northwestern mountain regions of Hubei. The topography is complex. There are many types of agricultural crops. Food grain production is mainly wheat, corn and sweet potato. Geographic conditions vary. The climates in the north and south are different, and vertical climatic changes in the mountain areas are great. Agricultural production is limited by the climate and is very unstable. How can we suit measures to local circumstances in crop distribution and planting systems to combine using and nurturing the land, fully develop the superiority of stable yielding crops and achieve the goal of promoting benefits, avoiding damages, developing advantages and avoiding shortcomings? Several opinions concerning this question are presented here.

I. The Natural Conditions of the Yunyang Mountain Area and Agricultural Production

Only by correctly understanding the characteristics of the conditions of the soil, climate and water conservancy of the mountain region can we correctly guide agricultural production. Here, we will only talk about some of the relationships between the characteristics of natural conditions in our region and the planting of crops.

1. The mountains are broad but the land is narrow. The land is arid. There are many slopes. The land is infertile.

The whole region has a total area of 38.63 million mu of land, but there are only 3.68 million mu of arable land, a per capita of 1.4 mu. Of the arable land, 620,000 mu are paddy fields, constituting 16.8 percent. Dryland amounts to 3.06 million mu, constituting 83.2 percent, and 74.8 percent of this is slopeland. Most of the slopeland is precipitous and infertile. Agricultural production is widespread but harvests are poor. For example, in Zhushan County, the area of slopeland with a gradient larger than 30 degrees reaches 460,000 mu, constituting over half the area of cultivated land. The area of cultivated land with a soil layer less than 60 centimeters thick constitutes 35 percent. At the same time, the organic content of the soil is low. Nearly 600,000 mu of cultivated land has an alkaline dissolved nitrogen content below 100 ppm and 500,000 mu of cultivated land have a content below 10 ppm. Such serious lack of nitrogen, lack of phosphorus and infertility of the plowing layer is representative of the whole region.

2. Light and heat resources are relatively good and they are favorable to developing multiple cropping systems.

The number of hours of sunshine throughout the year in the Jianghan river valley is near 2,000 hours. It is 1,500 to 1,700 hours on Ergaoshan at 500 to 900 meters above sea level, 500 hours more than that in southwestern Hubei. The total amount of annual radiation is 107 to 111 kilocalories/square centimeter, more than that in southwestern Hubei and the Three Gorges of Changjiang by 11 percent and 6 percent respectively. The average daily amount of heat throughout the region from April to October is 250 to 450 calories, 73 calories more than that in Hangzhou. The active cumulative temperature ≥ 10°C is 4,500 to 5,200°C, 50 to 120°C more than that in Xinyang and Bangfu on the same latitude. The number of days over the years with an average temperature ≥ 12°C is 196 to 214 days, and the number of days over the years with an average temperature ≥ 20°C is 104 to 123. The beginning day with a temperature ≥ 10°C in Yun County north of the Jianghan (Plain) averages to be 25 March, the same as that in the Jianghan Plain. The rich amount of heat resources has provided conditions for developing double and triple cropping. In 1980, double cropping areas of paddy fields throughout the region have already expanded to 397,000 mu, and the area of triple cropping in dryland has expanded to 730,000 mu.

3. Agricultural production is visibly affected by the vertical climates. Distribution of agricultural crops is diversified.

Taking the Jianghan Plain as the border, the annual average temperature in Yun County, Yunxi and Jun County (abbreviated as the three northern counties) is 15.4 to 16°C. The annual average temperature in Zhushan, Zhuxi and Fang County (abbreviated as the three southern counties) is 14.3 to 15.6°C. The frostless period in the three northern counties is 15 to 30 days longer than that of the three southern counties. The amount of rainfall in the three southern counties is 130 to 190 millimeters more than that in the three northern counties. The vertical climates in the mountain region visibly affect agriculture. The elevation of the valley of the Changjiang and Hanshui rivers is less than 100 meters above sea level. The "first peak in Central China" has an elevation of 3,052 meters above sea level. Each increase of 100 meters in elevation above sea level is marked by an average drop of approximately 0.55°C in temperature. The cumulative temperature ≥ 10°C lessens by 150 to 190°C. The frostless period shortens by 7 to 9 days. The growth period of crops is delayed by 4 to 5 days. The amount of rainfall increases by 35 centimeters in the low mountain areas and by 53 centimeters in the high mountain areas. The vertical change in climate has formed three-dimensional ecological types, such as wheat at low elevations and potatoes at high elevations, potatoes in the south and yams in the north and mandarin oranges in the north and lacquer [trees] in the south.

4. The distribution of rainfall is uneven. There are many disasters. The degree of stable agricultural yields is not high.

The mountains are large and the valleys are narrow in our region. Water conservancy resources are rich. The whole region has a hydroelectric reserve of 500,000 kilowatts. The present water conservancy facilities number over 37,000 locations. They store, draw and lift an effective amount of 450 million square meters of water. But the small hydraulic stations do not have complete facilities. The effectively irrigated area is only 550,000 mu. Of the 3.06 million mu of dryland, the irrigated area is less than 60,000 mu. Annual amount of rainfall is 800 to 1,150 millimeters. Distribution is very uneven. There is more rainfall in the three southern counties and less in the three northern counties, and more in the high mountains and less in the low-lying mountains. Summer rainfall constitutes 41 to 46 percent of the amount of the whole year. Most of this rainfall comes down as torrential rains and they frequently cause mountain floods. At the same time, there is more autumn rain than spring rain. Winter rainfall constitutes only 4 to 6 percent of the annual amount of rainfall. Therefore, drought, waterlogging, low temperatures, ice and hail, and mountain floods occur almost every year. Summer and autumn drought have an especially high probability of occurrence, and they severely damage agricultural production. For summer and autumn crops, summer harvested crops suffer fewer disasters and produce stable yields. Autumn harvested crops suffer more disasters and produce unstable yields.

II. Fully Develop the Superiority of Stable Yielding Crops, Guarantee the Steady Increase in Food Grains and Economic Crops

Never slacken food grain production and actively develop diversification are the correct policies for developing agricultural production. Specifically in the mountain regions of Yunyang, success was achieved by self-sufficiency, having a surplus of food grains and developing diversification in a big way. In recent years, especially since the 3rd Plenary Session of the 11th Party Central Committee, agricultural production of the whole region has broken away from the lingering situation which lasted for 10 years. Development was relatively fast. During the 5 years from 1976 to 1980, production of food grains increased for 4 years consecutively. By 1979, the region basically realized self-sufficiency. This has served greatly in stabilizing the economic trend in farm villages and in developing diversification centered around forestry and the production of handicraft products. But, because of natural disasters and the weak ability to fight disasters, food grain production was very unstable. Practice showed that although the conditions for developing diversification in the mountain regions were good, if food grains were insufficient, diversification and economic crops could not be developed well. At the same time, land resources cannot be increased. Destroying forests to reclaim and expand the planting area for food grains will cause the destruction of forest resources and soil erosion will worsen. The only practical and correct way is to adapt to the climatic patterns, fully develop the superiority of stable yielding crops to increase yields, improve the multiple planting index, and improve unit yield under the prerequisite of stabilizing the area of planting.

1. Fully Develop the Superiority of Summer Grains

Winter in the Yunyang Prefecture is relatively warm. Rain and snow in ordinary years amount to less than 50 millimeters. The amount of rainfall during the growth period of wheat is generally 330 to 360 millimeters, suitable for the needs to cultivate high yielding wheat. For example, from the first 10 days of October to the last 10 days of December, the cumulative temperature above 0°C is 987°C in Yun County and 834°C in Fang County. The final day with an average daily temperature of 3°C is 20 December in Yun County and 10 December in Fang County. Wheat sown during the middle and last 10 days in October has an effective tillering period of over 50 days in the three northern counties and 40 to 50 days in the three southern counties. The peak tillering period of November has an average temperature of 10.5°C in Yun County and 8.9°C in Fang County. The amounts of rainfall in the two counties are 39.7 millimeters and 36.4 millimeters respectively. Therefore, the temperatures and rainfall are very favorable to tillering of wheat. The beginning day when the temperature steadily passes 20°C is 19 May in Yun County and 29 May in Fang County. High temperature forced heating during the filling and maturation periods occurs very infrequently in ordinary years. During the latter period of wheat growth, although the amount of rainfall during the two months of April and May is more abundant in Fang County (173.8 millimeters), waterlogging may occur in paddy fields and flatland, but seldom occurs in wheat fields on slopeland. As long as the "three ditches" are dug well in flatland, waterlogging can be reduced or avoided. Therefore, summer wheat not only produces a stable yield, but managing cultivation well can also produce over 400 min per mu in yield.

Summer food grains occupy a very important position in our region's food grain production. During the 31 years from 1949 to 1980, there were 17 years in which summer increases brought about an increase throughout the year, and there were 8 years in which a summer reduction in yield brought about a reduction in yield throughout the year. There will be a stable and reliable foundation only if we can use summer yields to stimulate autumn yields and to produce a bumper harvest for the whole year. In recent years, the proportion of summer food grains throughout the region has continued to increase. The proportion of summer food grains now basically constitutes one-third that of the whole year. The proportion of summer food grains at some communes and brigades with larger areas of cultivated land has already reached 40 to 50 percent. For the whole region, the proportion of summer food grains can still be appropriately increased to 35 to 40 percent. Among the summer food grains, planting of wheat should be mainly expanded. The yields of broad beans and peas are not high and not stable because of the effects of overcast and rain and low temperatures during the flowering periods. Their planting areas have lessened from 400,000 mu to 270,000 or 280,000 mu. But the crop opening of broad beans and peas is early and good. The people also need such early and good crop openings in daily living, therefore their planting areas should not be reduced further. The summer food grain crop that should be developed in the high mountain region is mainly potatoes. Cold high altitude mountain regions over 1,000 meters above sea level are appropriate for developing early maturing wheat.

2. Fully Develop the Superiority of Spring Sown Corn

The yield of corn in Yunyang Prefecture constitutes about one-third the total annual yield of food grains. It occupies the same important position as wheat. But, in continuous cropping of wheat and corn and destroying the crop opening for sowing, the advancement of staminate and dispersion of pollen of corn meet the drought (bottleneck drought) at the end of July and the beginning of August. A slight drought reduces yield and a severe drought can eliminate the entire harvest. The yield is very unstable. To improve the degree of stability of the yield of corn, continuous cropping and destroying the crop opening must be changed to companion planting of wheat and corn. Corn should be sown in the spring. This will develop the potential of the climatic resources to increase yield and will also stimulate the advantages and prevent damages. The intermediate and late maturing corn varieties Yundan No 1, Zhongdan No 2 currently being propagated in our prefecture require about 75 days from sowing to staminate advancement. If corn is sown at the beginning of April in the low mountain regions and during the first 10 days of April in the Ergaoshan area, the period of staminate advancement will fall within the rainy period, and this can effectively prevent "bottleneck drought." But sowing cannot be completed within 3 to 5 days in large area production. Therefore, sowing should begin about 20 March in the low mountain areas and around 5 April in the Ergaoshan area. The end of sowing in the high mountain areas should not be later than 20 April.

3. Fully Develop the Superiority of the Sweet Potato, A Disaster-resistant Crop

In recent years, the planting area of sweet potatoes throughout the prefecture has been about 750,000 mu. The yield constitutes about 15 percent of the total yield of food grains. The amount of rainfall in the three northern counties is less. Drought is outstanding. Eighty percent of the area of sweet potato plantations of the whole prefecture is concentrated here. But, as interplanting and companion planting develop and as the crop distribution changes, the planting area of sweet potatoes during the past 2 years has decreased. Viewing the whole prefecture, relative stability of the planting area of sweet potatoes should be maintained in the future to improve unit yield. The potential of unit yield of the sweet potato is great. Transplanting sweet potatoes in spring and summer, even when spring drought and summer drought occur and affect vegetative growth, can still produce relatively ideal yields after autumn rain. Sweet potatoes must be rationally distributed in arranging the crop opening. In addition to leaving a portion of fallow land that needs to be plowed under in spring for planting sweet potatoes, continuous cropping of soybeans and sweet potatoes and companion planting of wheat and sweet potatoes can also be carried out.

4. Fully Develop the Superiority of Paddy Rice Which Is a Stable Yielding Crop

Except in the high mountain regions, our prefecture's paddy fields are mainly double cropping wheat and rice fields (during the past 2 years, some areas have developed double cropping of rape and rice). A number of brigades producing a per mu yield of 1,400 to 1,500 jin of double cropping sheat and rice have emerged. But because small water conservancy projects are not complete, in recent years the area of transplanting has lessened. Each year, only 520,000 to 550,000 mu have been transplanted. Also because of the backwardness of the technology of cultivation, the quality of transplanted seedlings is poor. They do not develop early. And with the epidemic of rice leaf hoppers that has caused a disaster, production of paddy rice has developed slower than the production of dryland food grain crops. But for the people's livelihood and stable yields of crops, production of paddy rice should be greatly developed in the future. Localities with water sources should expand the area of paddy fields.

The development of double cropping of wheat and rice leaves a large area for the late crop. Late transplanting of ordinary rice will not easily produce high yields. Hybrid paddy rice must be actively propagated to raise the production of paddy rice to a new level.

5. Suit Measures to Local Circumstances to Develop Economic Crops

The per capita income of commune members in our prefecture is very low. In 1980, per capita income was 69 yuan. There are also 22.6 percent of the production teams which have a per capita income of less than 50 yuan. Less income for the commune members and insufficient capital for reproduction make it difficult to elevate scientific and technological standards. Therefore, while steadily developing food grains production, we must fully utilize the superiority of the mountain regions to develop timber and economic forests in a big way, and within the planting sector, we must develop economic crops actively and according to plan.

The distribution of economic crops must also be done by suiting measures to local circumstances. The humidity in the three southern counties is high. The temperatures are lower than those in the three northern counties. Bast fibers can be developed. Except for a small number of river valley regions where the microclimate is good, overemphasis on the development of cotton should not be done.

The mountain region has had a long period of shortage of edible oil. The production of oil bearing crops should be developed according to plan. The high mountain region also has a future for development. For example, the Longguang No 1 Brigade of Liudou Commune in Yunxi County planted 2.5 mu of cabbage-type rape in 1980. Seedlings were cultivated during the middle 10 days in July. They were transplanted during the first 10 days of September. Average per mu yield was 331 jin. The cultivated areas in the northern parts of Jun County and Yun County are larger. While developing summer food grains, we should actively expand the planting of sesame. To adjust the crop opening and increase the source of fertilizers in the double cropping region of wheat and rice, we should appropriately develop double cropping of rape and rice. Fifteen to 20 percent of the paddy fields can be arranged each year for planting rape. In addition, each locality can also utilize unused land between forests to plant peanuts. Localities with favorable conditions can develop the triple cropping system of wheat, corn and peanuts.

The crop opening of tobacco is good. The economic value of tobacco is high. The old producing regions in Jun County should actively revive the production of their famous dried tobacco. Yun County and Yunxi can suit measures to local circumstances to develop Maryland tobacco and aromatic tobacco. Zhushan and Zhuxi can develop mao ba tobacco. Transportation is inconvenient in the mountain regions. Transporting coal for curing tobacco is difficult. In the future, flue cured tobacco should not be developed.

The humidity of the regions above Ergaoshan is high. Over the years, this region has a tradition of planting soybeans. During the 1970's, the yield of soybeans of the entire region once reached over 70 million jin. In recent years, because of the development of companion planting of wheat and corn and potato and corn, the area of pure soybean plantations has gradually lessened, and the yield is less than 40 million jin. In the future, in addition to actively developing the triple companion crops of wheat, corn and soybeans, some of the frontier infertile land where the yield of companion planted corn is not high should be changed to companion planting of wheat and soybeans.

III. Insist on Developing Interplanting of Mainly Companion Planted Wheat and Corn

Interplanting and companion planting of mainly companion planted wheat and corn have broken away from the limitations of the continuous cropping system and have opened a broad road for improving the multiple planting index. They suit the natural conditions of our prefecture, which has less rain and many disasters, drought in 9 out of every 10 years and several droughts in a year, and they suit the productive conditions of our prefecture which has more slopeland and less flatland, more dryland and fewer paddy fields, and a weak ability to resist disasters. Many years of practice show that the development of agriculture in the mountain regions and the stady increase in food grains can be realized by developing stable yielding spring and autumn sown crops to seek high yields in stable yields.

Since 1975, the whole prefecture has developed companion planting of wheat and corn and potatoes and corn. Preset rows for autumn sowing cover more than 1 million mu each year. This enables the sowing period of corn to begin generally 50 to 60 days earlier, while expanding the area of summer food grains continuously. The staminate advancing period correspondingly occurs earlier. The threat of summer drought in the low mountain regions has thus been greatly reduced, and the high mountain regions can avoid autumn cold. The area of summer food grains in 1979 throughout the prefecture showed an increase of 460,000 mu over that in 1975. The yield increased by 267.29 million jin. Net increase of corn was 230.94 million jin. The total yield of food grains of the whole year increased by 547 million jin, an increase of over 47 percent. Also, corn was companion planted. Because the side rows of wheat constitute 50 percent of the whole field, the preset rows form a ventilation and light permeation "corridor." The characteristics of the spikes of wheat improved. At 5.5 chi per strip, the preset row is 2.5 chi, the sowing width of wheat is 3 chi, and the per mu yield can reach over 600 jin.

Companion planting of wheat and corn is an important measure to guarantee that the crops are rationally distributed as described above. During a defninte period in the future, we should insist on developing it and keeping it stable. Except for the regions where paddy fields are concentrated and where there are fewer people and more land, the areas of companion planting at most localities should be expanded. The method of companion planting should be rationally arranged according to the texture of the soil and the distribution of the forecrop and the aftercrop. At present, the preset rows are generally too narrow and are not up to standards. They require urgent improvement. Viewing the whole prefecture, the following methods are better:

(1) Six chi for each strip. The width of sowing wheat should be 3 chi sown in five to six rows. The preset rows are planted with two rows of corn with a small row of 1 chi. The distance between plants should be 8 cun, 2,500 plants per mu. This is suitable for use in plots with intermediate and low soil fertility.

(2) Eight chi per strip. The sowing width of wheat can be 4 chi shown in seven to eight rows. The preset rows can be three rows of corn with a distance of 8 cun between plants, 2,800 plants per mu. This is suitable for plots with intermediate soil fertility.

(3) Ten chi per strip. The sowing width of wheat can be 5 chi sown in seven to eight rows. The preset row can be 5 chi. Low earth mounds can be made to transplant two rows of sweet potatoes. One row of corn can be companion planted between rows. After harvesting wheat, the crop opening is destroyed to plant sesame. This is suitable for regions mainly planted with spring sweet potatoes.

(4) Companion planting of potatoes and corn can popularize the method of 5 chi per strip. Potatoes can be planted in narrow rows of 1 chi. The preset row can be companion planted with two rows of corn.

In addition, interplanting and companion planting can also be done for companion planting of food grains and green manure crops, such as presetting rows for companion planting of winter green manure at autumn sowing, companion planting of tamarix fiber after harvesting wheat and companion planting of tamarix fiber or mung beans after harvesting early corn, plowing green manure plants under as base manure for autumn sowing. These should be actively tested and popularized to combine use and nurturing of land. The double cropping regions of rice and wheat have fewer paddy fields and more laborers. To fully develop the function of increased yields of good fields and good soil, we can cut green plants as cumulative fertilizers, return stalks to the fields and establish year-round green manure bases on mountain slopes to nurture the land. Pure green manure should not be overly planted. Of course, it is necessary to appropriately change some of the double cropping wheat and rice fields to double cropping rape and rice fields. Rape is an oil-bearing crop and a fertilizer crop. At the same time, its crop opening is earlier than that of wheat, and it can benefit paddy rice production.

9296
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CONTRACT SYSTEM FOR VEGETABLE PROCUREMENT PRAISED

Nanjing XINHUA RIBAO in Chinese 16 Feb 82 p 1

[Article by Yang Lixin [2799 4539 2450] and Wei Laihong [7279 0171 1347]: "Nantong Municipality Comprehensively Promotes Vegetable Production and Marketing Reward and Penalty Contract System. Adheres to Planned Growing to Assure Phased Market Arrival"]

> [Text] Editor's Note: Vegetables are a commodity that everybody needs everyday, but vegetable production and supply are frequently difficult to control. As a result, production and marketing contradictions are fairly prominent. How can these contradictions be solved? Nantong Municipality's experiences have demonstrated that institution of a vegetable production and marketing reward and penalty contract system is an effective method.
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> The situation everywhere shows that if vegetable production and supply are to be improved, it will be necessary to strengthen planning and persevere in planned planting to assure balanced market arrival. This planning requires strict contracts as a guarantee. Without contracts, planning has no guarantees and may fail to deliver. To fulfill contracts is to carry out plans. In order to strengthen planning concepts and guarantee benefits to vegetable producers, dealers in vegetables, and the broad masses of consumers, we must intensify ideological training and, at the same time, genuinely take in hand the task of vegetable production and marketing contracts.

Nantong Municipality's general promotion of vegetable production and marketing systems have put vegetable production and marketing work on the path of national planning and have promoted vegetable production and supply. At the present time, throughout the municipality, all vegetable production teams are in the process of further strengthening care of vegetables in the field are are devoting attention to preparations for spring farming and production, striving to make vegetable supply during the spring period of shortage better than in former years.

Formerly, because of insufficient clarity about economic responsibilities in vegetable production and supply, Nantong Municipality's farming and business sectors wrangled with each other, with the result that planting plans were difficult to implement; phasing of supplies sent to market was difficult to achieve; improvement in vegetable quality was difficult; it was difficult to determine price according to quality, and the masses' displeasure was considerable. In view of the aforestated problems, Nantong Municipality proceeded from success in the operation of pilot projects, beginning in October 1981 to organize the municipality's 174 vegetable production teams and the urban area's four vegetable procurement stations for all-around implementation of production and marketing contract systems. Contract provisions took simultaneous account of the interests of the state, the collective and individuals, and embodied the principles of equality and mutual benefit and compensation at equal value for both producers and marketers. Emphasis centered on planned planting, phased market deliveries, vegetable quality, and stable prices, responsibility for these four matters being placed on both producers and marketers in the institution of a contract system of rewards and penalties that linked vegetables, money and grain. Following certification by municipal industrial and commercial administrative and management units, they were put into effect.

More than four months of experience has shown that practice of a contract system of rewards and penalties for vegetable production in which awards and penalties, rewards and punishments are clearly set has aroused the enthusiasm of both producers and marketers. Specific benefits are manifested in the following three regards.

First, it has promoted planned planting and planted deliveries to markets. Contracts clearly stipulate that if vegetable teams do not plant according to plan, they may not dispose of any excess portions planted as they see fit, and they will not enjoy a premium price for deliveries to market or a premium price for quality that vegetable companies may pay at the time of procurement in accordance with prevailing market prices. For reduced planting or unplanted portions, they will be fined 10 percent of the per mu output value of similar varieties sent to market. If vegetable stations fail to discuss planting plans with vegetable brigades and put them into effect on time, thereby causing delays in the farming season, or if vegetable stations demand changes in plantings after vegetable production teams have planted according to plan, vegetable stations will be liable to indemnify vegetable brigades according to the actual losses they have sustained. This method maintained the solemnity of planting plans. In addition, a method of dovetailing production with planned deliveries to market was formulated. All vegetable teams delivering vegetables to markets for sale according to plan received bonuses. Reduced deliveries or failure to deliver resulted in commensurate forfeiture of grain and money as punishment, thereby effectively guaranteeing planned planting and phased market deliveries. Many vegetable teams took scales into the fields and weighed vegetables before sending them to market so that vegetables offered for sale were neither too many nor too few. They have surmounted a situation on vegetable farms of sometimes too much and sometimes too few vegetables, and the rotting of vegetables when there have been too many or a shortage of supply when there have been too few. Now an average 9.6 liang of vegetables per capita are supplied daily to the city. This plus the amount sent to markets in the country fair trade substantially satisfies the needs of the masses.

Second was improvement in vegetable quality. According to the terms of contracts, vegetables delivered to market that meet first and second grade standards earned a premium price from the company. If these standards were not met, not only was no premium price paid, but a fine was levied. As a result, vegetable team quality concepts were intensified. After some vegetable teams sent vegetables to market that did not meet grade requirements, they did more work in the markets to straighten matters out. More than 96 percent of the vegetables sent to market between October and December 1981 were of first or second grade, and this was vastly higher than contract requirements stipulated.

Third was improvement in relations between agriculture and business. Formerly arguments between the agricultural and the business sector occurred about prices. Vegetable stations felt that vegetable teams made deliveries to market with an eye on prevailing market prices, and vegetable teams accused vegetable stations of setting prices on the basis of the market situation. In view of these circumstances, contracts emphasized the honoring of price policies. No matter whether during seasons of shortage of abundance, agreement about price had to be done on the basis of quality. In case of conflicts, discussions should be held to find a solution. If discussions did not succeed, higher authority or units concerned would be asked to set a price. In cases where quarrels resulted in delays or caused vegetable losses, the party at fault would bear responsibility. Any willful downgrading of quality in order to beat down prices, or inflating quality to raise prices would also result in fines. Thus, both the agricultural and the business sector had rules to go by and agreements to rely on. In cases of conflict, means existed to solve them, and if contracts were violated, blame could be fixed, thereby avoiding mutual arguments and mutual recriminations.

9432
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BRIEFS

HOG RAISING--Counties and communes in Jiangsu's Xuzhou Prefecture have developed hog raising in an effort to diversify the economy. The number of hogs in stock as of the end of March was 50,000 head more than the same time last year. [OW171227 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 14 May 82 OW]

CSO: 4007/416

BRIEFS

JIUJIANG PREFECTURE COTTON--Jiujiang Prefecture, Jiangxi Province, has planted over 600,000 mu of cottonfields as of now, or 94 percent of the prefecture's total cotton acreage. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 18 May 82 OW]

JIANGXI COUNTY RAPESEED--Jiangxi Province's Pengze, Hukou, Guangfeng and Yongxiu counties have reaped a bumper harvest of rapeseed this year. With a total output of 10 million jin, Pengze County boasts the highest growth in production. [OW191459 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 18 May 82 OW]

CSO: 4007/416

BRIEFS

FIELD CROP SOWING--Our province's field crop sowing has basically been completed. As of 5 May, 40.68 million mu of field crops had been sown, 85 percent of the annual sowing plan. The quality of sowing has improved this year. [SK060900 Changchun Jilin Provincial Service in Mandarin 2200 GMT 5 May 82 SK]

PADDY RICE CULTIVATION--The transplanting of paddy rice seedlings in Jilin Municipality has begun. Thanks to the peasants' efforts in selecting good quality seeds, the growing situation of 100,000 mu of paddy rice seedlings in this municipality is better than in the previous year. This year Jilin Municipality has used 224 sets of mechanized transplanters, planning to transplant 220,000 mu of paddy rice seedlings, two-thirds of the farming acreage of the province's experimental fields. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 16 May 82 SK]

CSO: 4007/416

BRIEFS

AFFORESTATION PROJECTS--An upsurge in afforestation is being whipped up in Nei Monggol Autonomous Region. By mid-April, the region had afforested 1,767,000 mu, fulfilling 35.3 percent of the annual afforestation plan. Some 25.6 million trees had been planted by houses, villages, roads and waterways, fulfilling 36 percent of the annual plan. [Hohhot Nei Monggol Regional Service in Mandarin 2200 GMT 25 Apr 82 SK]

SPRING AFFORESTATION--Xilin Gol League, Nei Monggol Autonomous Region, has scored qualitative and quantitative achievements in planting trees this spring. By the end of April, the league had planted over 65,800 mu of trees and over 1.24 million trees around houses and villages and along the roads and waterways, as well as in the people's voluntary operations. It grew over 19,500 mu of saplings. [SK120657 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 10 May 82 SK]

CSO: 4007/416

AFFORESTATION AIDS DESERT CONTROL

OW130306 Beijing XINHUA in English 0255 GMT 13 May 82

[Text] Yinchuan, 13 May (XINHUA)--Afforestation in Zhongwei County, Ningxia Hui Autonomous region, has forced the Tengger Desert to retreat 10 kilometers northward in the past 33 years.

The county which is on the southeastern edge of the desert has always been plagued by sandstorms. Records show that for the past 400 years from the Ming Dynasty up to the founding of New China the desert advanced southward at a rate of 5 meters a year. Dust storms swallowed up farmland and levelled villages.

The local government has mobilized the people to take part in afforestation campaigns every year since 1949. They also built crisscross fences made of dry wheat stalks to anchor the sand dunes and conducted water from the Yellow River to irrigate the sandy soil. After almost 33 years of hard work, a shelter belt 60 kilometers long covering 6,300 hectares has been formed. Trees planted along roadsides, ditches and around houses number 9,380,000. The state has allocated special funds annually for the project and scientific research units have sent groups to the county to help the local people plan the desert control work.

Zhongwei County now has 26,000 hectares of cultivated land, more than double that of 1949. Total grain output last year was 101,400 tons, five times what it was in the early years of New China.

CSO: 4020/130

BRIEFS

SNOWFALL REPORT--From the evening of 10 to 12 May, most areas of Qinghai Province had moderate rainfall followed by moderate snowfall. A few areas of the province had heavy snowfall. Wulan and Huzhu counties had the most precipitation, averaging 19 millimeters. Some areas had less than 10 millimeters. According to the weather forecast, Qinghai Province will have clear skies beginning 13 or 14 May. Haibei and Haidong prefectures will have frost. Huangnan, Hainan and Golog prefectures will have ice conditions. [SK140950 Xining Qinghai Provincial Service in Mandarin 1100 GMT 13 May 82 SK]

CSO: 4007/416

BRIEFS

MUPING COUNTY SPRING FARMING--Spring farming is being carried out speedily and in good measure in Muping County, Shandong Province. The county has irrigated 150,000 mu of wheatfields, plowed and leveled 230,000 mu of fields and begun construction of 351 irrigation projects. Ninety-seven percent of the county's brigades have instituted the responsibility system of setting payment according to output. Many people have been able to engage in diversified production. The income from the diversified economy from January to March was 15.4 million yuan, 33 percent more than in the corresponding 1981 period. [SK292229 Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Apr 82 SK]

CADRES COMBAT DROUGHT--Over 10,000 cadres in Weifang Prefecture have gone to the forefront to help combat drought. So far this prefecture has watered 4.84 million mu of wheat and sown 5.13 million mu of spring crops, which accounts for 79 percent of spring sowing acreage. The sowing of field crops, except for sweet potatoes and peanuts, has basically been completed. According to statistics, this prefecture has carried out 10,500 water conservancy projects and completed 8,300 of them, sunk 7,670 machine-operated wells and 131,400 indigenous wells and expanded and improved 567,000 mu of irrigated land. [SK120824 Jinan Shandong Provincial Service in Mandarin 2300 GMT 11 May 82 SK]

RAINFALL REPORTS--Rain fell in 35 municipalities and counties in Shandong Province on 10 May. In the early morning of 11 May, rainfall measuring 10-31 millimeters in nine counties and cities including Huimin, Zouping, Hauntai, Qingyun, Weifang, Anqiu, Qixia, Zhaoyuan and Beizhen, and below 10 millimeters in the remaining 26 counties and cities was recorded. Spring field crops are being sown on a crash basis in these localities. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 11 May 82 SK]

CSO: 4007/416

QUOTAS FOR GRAIN PURCHASE, SALE, ALLOCATION REVIEWED

Circular Issued

Taiyuan SHANXI RIBAO in Chinese 26 Feb 82 p 1

[Article: "Provincial People's Government Circular on Quotas for Purchase, Marketing and Transfer of Train This Year"]

[Text] The provincial people's government recently issued a circular requesting people's governments at all levels to adopt quotas for the purchase, marketing and transfer of grain starting in 1982. Quotas once fixed will remain unchanged for 3 years.

The circular specifies the following:

1. Appropriate to different forms of rural responsibility in production, localities should see to it that the purchase quotas are fixed for all contracting units including production teams, labor groups and households. Contracts should be signed for this and the quotas should remain unchanged for 3 years. In-depth investigation should be made to ensure that the quota burden is equitably distributed. Quotas for the purchase of surplus grain should be based on the ability to provide commodity grain and must not be distributed equally. Contracting units may sell their surpluses at higher prices only after they have fulfilled their base purchase quotas.

2. Grain marketing quotas which the province allocates to various lower units do not include grain used for fostering production and rewarding cottongrowers. Grain marketing quotas cover the following: food grain for fixed population, supplies to staple- and nonstaple food industries, supplies to the brewery industry, grain for use by public services and industrial enterprises, animal feed, grain for fattening pigs, grain to sell back to the countryside, grain as reward for the sale of farm and sidelines products, grain for making up seed supplies, and grain as subsidies for public project laborers. With the adoption of the rural responsibility system in production and the liberalization of rural economic policies, grain-short teams should be able to find their own sources of grain supplies to make up their shortfalls and should no longer be supplied by the state in normal years. Teams and households that are really in need of grain can borrow grain from the state and return it the following year. Grain shall be borrowed and returned at the same price as

grain purchased by the state. Vegetable, fruit and cash-crop growers who have fulfilled the state plan but are short of food grain shall be supplied with grain in amounts either according to existing provisions or according to fixed marketing quotas which will remain unchanged for 3 years.

3. Localities should give an overall consideration to quotas for the purchase and marketing of grain. They should consider local conditions, arrive at reasonable quotas amount of grain to be purchased and marketed during the year, liven up the local grain economy, balance a good crop year with a bad crop year, make up the deficit of a bad year with the surplus of a good year. They may purchase more grain in a good year and less grain in a bad year. They must adhere strictly to the difference between the amount purchased and the amount marketed as specified for them by the province. Localities required to export grain must not reduce their export; localities that import grain must not increase their import. Provided the difference is observed between the amounts transferred in and out, localities may make mutual adjustments to their grain purchase and marketing quotas. When they need to market more grain they must purchase more. When they are sure they will market less grain they may purchase less. A settlement of account should be made once every 3 years. Localities that have purchased more than they have marketed may retain the surplus for use in lean years. Localities that are short of grain due to natural disasters or other causes must find additional supplies themselves. Grain borrowed from the province in a year of severe calamities must be returned later.

4. To meet the needs of a developing national economy, the needs of the armed forces and the cities and the needs of the market, quotas for the transfer of soybeans, millet, assorted beans and sorghum should be increased. The types of such grains and their amounts shall be specified every year by negotiation between the grain administrations and localities. Wheat transferred out of a locality for use as a reward to cottongrowers of another locality can count as wheat transferred by the contributing locality to a higher unit, but shall not count as part of the regular wheat transferred into the recipient locality. When localities have fulfilled their quotas for transfer to the higher units, any surplus or deficit against the purchase and marketing quotas will be balanced by the province.

5. With the introduction of quotas for grain, the general principles, policies and regulations on grain should continue to be observed. Localities should not under their own authority make changes to the following: the range of price increases for the purchase of surplus products, the state and provincial policy regarding the award of grain for the sale of farm and sideline products, the transfer of rural inhabitants to urban areas, the amounts of grain to be supplied to people in cities and towns, and the regulations on the management of grain prices. With the exception of the grain which localities can market at negotiated prices, all grain stored in prefectural and city granaries is only at the disposal of the state, and must not be touched without the approval of the provincial authorities.

6. End of March grain inventories at localities to be used against outstanding national and provincial grain coupons shall be treated temporarily as revolving stocks of the prefectures and cities (a reasonable level of their

stocks will be determined later). Starting from 1 April 1982, grain coupons will count as grain transfers and will be settled together with grain transfers. Drawing on grain coupons will be like transferring in grain, delivering grain coupons to a higher level will be like transferring out grain.

7. The 50-50 ratio provided by the province for grain sold at negotiated prices will remain unchanged. Localities should promote the purchase and sale of grain at negotiated prices, balance surpluses and deficits, liven up the market, keep grain prices down, and treat the purchase of negotiated-price grain as a supplementary source of grain for the state.

8. Base purchase quotas for localities as approved by the State Council must not be changed without the approval of the State Council. Starting from 1982, the percentage of the base purchase quotas to be fulfilled by localities should be fixed on the basis of the actual fulfillment by localities in the past 2 years. Specific methods of arriving at the percentages shall be announced by the grain administrations.

The circular points out that the quotas for the purchase, marketing and transfer of grain represent a major reform of the system of grain management. It involves many policies and touches many sectors of society. It affects directly the development of grain production and the livelihood of the people in town and in the countryside. The people's governments at all levels must give the matter full attention and use their best efforts to carry out the reform.

Commentary on Monopoly

Taiyuan SHANXI RIBAO in Chinese 26 Feb 82 p 1

[Commentary: "With Planning as the Mainstay, Carry Out State Purchase and Marketing of Grain"]

[Text] The use of fixed quotas for the purchase, marketing and transfer of grain by the state is a major reform in the country's management of grain. It is beneficial for the continued stabilization of the peasants' burdens and the growth of farm production. Within the framework of a balanced supply and demand of grain a rational readjustmenttof the geographical pattern of farm crops brings greater initiatives from the central authorities, the localities and the grain administrations. All localities must take earnest steps to carry out this reform.

Fixed quotas for the purchase, marketing and transfer of grain by the state must be based on economic planning supplemented by market readjustment. The principle of planned purchase and marketing must be adhered to. We must give things overall consideration and make arrangements for everything involved, handling in a correct way the relationship between the state, the collective and the individual. We must do our best to narrow the gap between grain receipts and outlays. We must not pay attention only to small things and lose sight of bigger things, pay attention to individual interests and lose sight of the interests of the whole country. In fixing the quotas for the purchase, marketing and transfer of grain, some localities wish only that they could sell less grain to the state, retain more and sell less of the better varieties, buy more and better varieties from the state, and sell at a higher price to make the peasants happy. Some localities, because they have contributed less grain to the state due to natural disasters in the past 2 years, want to have lower quotas; they fail to see, from a developmental point of view, what productive enthusiasm has been aroused from the masses since the introduction of the rural res system of production. A few comrades wish their localities could have more flexibility by selling less to the state and selling more to the consumers. All this means that the relationship between the state, the collective and the individual has not been treated properly, and local interests have been stressed at the expense of the interests of the country as a whole.

Are there really difficulties in fulfilling the quotas? We believe that in our province the difficulties, although they exist, are not too great. Since the introduction of the rural responsibility system in production, farm produce has increased substantially, and the percentage of purchase quotas has declined a great deal during the last few years. For example, the percentage of purchased wheat has dropped from about 25 percent to around 13 percent in recent years. In 1981, 16 million jin of soybeans were purchased in the province at the fixed price, or 39.8 percent of the purchase target, but 34 million jin were purchased at negotiated prices. Six million jin of asserted beans were purchased at the fixed price, or 35 percent of the purchase target, but 35 million jin were purchased at negotiated prices. It is not that it was impossible to fulfill the purchase quotas but certain people wanted to sell at higher prices. On this question of fixing quotas for the purchase of grain we must educate the peasants and make them see that the state has done its utmost over the past 3 years to take care of their interests and that they should on their part take the interest of the whole country into consideration by fulfilling the grain purchase quotas to support the cities, the industries and national construction.

Doing a good job of grain distribution and livening up the grain economy on the basis of planned purchase and marketing by the state--this is an important task for the grain administrations and an honorable duty for party committees and people's governments at various levels. To assure fulfillment of the quotas for the purchase of grain and surplus grain, production teams, labor groups and households should all have fixed quotas. When they have fulfilled them, they may dispose of their surplus grain as they see fit. The state can negotiate with the teams and peasants for purchasing the surplus grain at negotiated prices. In localities where it is feasible, fine grains and industrial products can be used to exchange with the teams and peasants for grain. This will supplement the state's quota purchases in meeting the basic grain needs of various sectors.

Setting quotas for the purchase, marketing and transfer of grain is new work. The leadership at various levels must take it in their own hands, strengthen public information, conduct in-depth investigations of conditions in the communes and brigades, and do their best to arrive at a fair distribution of quotas. Grain administrations under the leadership of the governments at various levels should pay full attention to the fixing of quotas this year. All localities in the province must complete the fixing of quotas for all contracting units before the "Grain Rain" season.

9924
CSO: 4007/316

PROVINCIAL LEADERS INSPECT KEY UNITS

HK140613 Taiyuan SHANXI RIBAO in Chinese 6 May 82 p 1

[Report: "Provincial CCP Committee, Government Leading Comrades Go Down to Key Enterprises To Solve Problems on the Spot, Promote the Development of Production"]

[Text] Recently, Wang Kewen, secretary of the provincial CCP committee, and Wang Xi, vice governor, led responsible members of the economic committee, the planning committee, and responsible members of the industrial and communications, and financial and commercial departments and bureaus, to the Taiyuan Steel Works and 14 other large and medium-sized factories and mines. There they held discussions with comrades of the enterprises and solved 59 urgent practical problems, thus promoting the development of current industrial production.

The total industrial output value of these 15 factories and mines accounts for a very great percentage of the total industrial output value of the Taiyuan area. Most of them fulfilled or overfulfilled their production quotas of the first quarter of this year. In the second quarter, they all have encountered some problems which are relatively difficult to solve. Some of these problems involve the relationships with the commercial, supply and transportation departments. Delay in solving these problems due to disputes over trifles or red tape could possibly affect the increase of economic returns. After responsible members of departments concerned, headed by leading comrades of the provincial CCP committee and provincial government, arrived at these enterprises, they adopted the method of "joint examination by responsible members at three levels and making on-the-spot decisions." This strengthened economic coordination and some problems which had remained unsolved for a long time were readily solved. In the Xishan Mining Bureau, for example, production was affected due to overstocking of coal. After the arrival of responsible comrades of the provincial government, a "joint examination" by responsible members including those of the provincial economic committee and the Taiyuan Railway Bureau was held on the spot. It was finally decided that the Taiyuan Railway Bureau should make sure that 550 railway cars would be provided every day. The problem of gasoline for some 100 trucks was also solved. This not only ensured that all the coal to be produced this year would be transported to other places but a portion of the overstocked coal would also be transported. The problem of overstocking of coal was thus basically solved. Besides, they also handled official business on the spot and helped the Shanxi Textile Printing and Dyeing Mill, the Taiyuan Pharmaceutical Plant, the Taiyuan Chemical Fertilizer Plant and the Taiyuan Chemical Works solve problems of raw material supplies of 50 tons of caustic soda, 16,000 tons of coke, 14 tons of diesel oil and 10 tons of acetone.

As a result of responsible members of departments concerned, headed by responsible comrades of the provincial CCP committee and the provincial government, handling official business on the spot, the relationships between industry and commerce and between industry and supply were coordinated. Due to changes in market, high and medium-grade cigarettes produced by the Taiyuan Cigarette Plant sold slowly this year. The plant formerly planned to increase its production but commercial departments only purchased them in small quantity. After learning what had happened, leading comrades of the provincial CCP committee and the provincial government discussed with responsible members of the plant and asked them to produce easily marketable cigarettes in accordance with the needs of market. At the same time, they discussed with the commercial departments and decided that the commercial departments should purchase 90 percent of the cigarettes produced by the Taiyuan Cigarette Plant and the remaining 10 percent is to be sold by the plant itself. The varieties and grades of these cigarettes were to be fixed at proper proportions. Thus, a long-standing problem was solved. The provincial supplies bureau was in bad need of 5,000 tons of thin iron sheets and was not able to get them. While responsible members of this bureau were handling official business on the spot at the Taiyuan Steel Works, they were helped by leading comrades of the provincial CCP committee and the provincial government who acted as go-betweens in solving this problem. At last, the Taiyuan Steel Works voluntarily decided to produce the iron sheets in order to meet this demand of the provincial supplies bureau, although not much profit would be obtained from producing them.

While leading comrades of the provincial CCP committee and the provincial government were handling official affairs on the spot, they were not able to solve at once 23 problems put forth by the enterprises but they noted them all down, arranged them in proper order on a list, made clear which departments should be responsible for solving them and instructed these departments to solve them within a specified time.

CSO: 4007/416

PROVINCIAL DIRECTIVE ON SPRING FARMING ISSUED

Hangzhou ZHEJIANG RIBAO in Chinese 14 Mar 82 p 1

[Article: "Zhejiang Provincial CCP Committee and Zhejiang Provincial People's Government Directive on Doing a Conscientious Job of Spring Farming and Production"]

[Text] The busy season of spring farming will soon be here, and in order that no time will be lost in doing a good job of spring farming for an all-around bumper harvest from agriculture this year, the following directive has been issued:

1. All Levels of the CCP Committee and Government Should Attach Extreme Importance to Strengthening Leadership of Spring Farming and Production

Since the 3rd Plenary Session of the 11th Party Central Committee, heartening changes have taken place in the province's rural economy, and the situation has developed in an encouraging way. However, it should be realized that numerous problems still exist in the province's agricultural work. During the past few years, grain, cotton, hog and vegetable production has not been very ideal as a result of both natural disasters and problems with leadership. From the province to the prefectures and the counties, there has been a laxness in leadership. Cadres in some leadership organizations have gone into rural villages less, and in some communes and brigades grassroots cadres have not devoted great attention to agriculture. A look at the present situation shows that the energies of leaders in numerous places have yet to be concentrated on spring farming and production. Unless this situation is rapidly changed, the good situation in agriculture that has appeared will be hard to maintain and develop. Leaders at all levels must deeply realize the importance and urgency of the development of agriculture, and be extremely determined to expend maximum effort in diligent strengthening of the leadership of agriculture.

A good job in spring farming and production is the first battle in winning a bumper harvest in agriculture for the entire year. All levels of CCP committees and government should take spring farming and production in hand as the central task of the moment in rural villages. Leaders at all levels in the province, prefectures, counties, districts and communes should change their work style, cut down on the number of meetings they hold, go down into rural villages and concentrate their energies on attention to agriculture. In the period from now until May, leadership comrades in charge of prefectures, municipalities and counties should take the lead in going to the front lines of agriculture to investigate and study, to giving painstaking guidance, and to helping communes and brigades perfect agricultural production responsibility systems and do a solid job of spring farming and preparations for farming. In addition, all levels of leadership organizations should organize a group of cadres to go into the countryside to help the grassroots solve some real problems. Work situations following visits by leadership cadres from units in prefectural, municipal, county and provincial organizations are to be reported back to the Provincial CCP Committee and the people's government.

2. Propagandize with Great Fanfare Implementation of Central Committee Documents on Rural Work Problems, and Stabilize and Perfect Agricultural Production Responsibility Systems

The Central Committee documents on rural work problems summarize the practical experience of rural work during the past several years. They are a powerful weapon for continuing and developing a series of rural programs and policies since the 3rd Plenary Session of the 11th Party Central Committee, and for unifying cadre and mass thinking about production responsibility systems. The most fundamental need in strengthening leadership of agriculture and doing a good job of spring farming and farming preparation work is good propagandization and good implementation of the Central Committee documents on rural work problems.

Right after the lunar new year, many county and municipal communes used the Central Committee documents on rural work problems as basic teaching materials in combination with local realities for the training of brigade and production team cadres, which unified cadre perceptions of the situation, improved their consciousness about carrying out the programs and policies that have ensued from the 3rd Plenary Session of the 11th Party Central Committee, clarified the guiding mentality for institution of production responsibility systems and development of agriculture, clarified grassroots cadre responsibilities following establishment of responsibility systems, and encouraged a spirit of dare to do and dare to care, which have won very good results. However, a certain number of counties and communes have not aroused serious attention to these tasks and have not conscientiously taken them in hand. They must take them firmly in hand to remedy the situation. In addition, places without production team heads and those that have not instituted cadre remuneration should quickly elect production team heads and institute equitable remuneration for cadres.

All kinds of propaganda tools should be applied and all forms of propaganda adopted for the propagandization with great fanfare of the Central Committee documents on rural work problems so that the farflung cadres and masses will understand that China's agriculture must hue to the road of socialist collectivization, that ownership of the means of production, such as land, will not change for a long period of time, and that the collective economy's establishment of production responsibility systems will also not change for a long time. It is to be clearly propagandized that the period of large-scale changes in the production responsibility system lies in the past, and that existing responsibility systems, no matter their form, so long as most of the people are satisfied with them and they advance production, should be consolidated and a good job done to perfect them as a means of helping eliminate fears on the part of some that they will be changed, and mistaken suppositions that assignment to peasant households of full responsibility for task completion is the sole form of responsibility system. It is necessary to state clearly and with full assurance that the goal in instituting responsibility systems is the consolidation and development of the collective economy rather than not wanting a collective economy. Peasant household assumption of full responsibility for task completion does not mean that dividing up the fields for independent working is to be permitted. No matter the form of responsibility system, it must adhere to both making the most of the superiority of unified collective operation and arouse the enthusiasm of individual commune members to achieve both centralized management and contracting, that which lends itself to centralized management being managed in a centralized way, and that which lends itself to contracting being contracted. Production projects requiring centralized administration and management, in particular, should be under centralized control, while production tasks that lend themselves to decentralized work by individuals should be contracted out to individual workers or households. Production tasks requiring labor cooperation should be contracted to groups. Where difficulties in production exist in farming by individual households, cooperative efforts should be organized. An unequivocal attitude must be adopted and resolute correction done in cases where collective property, public accumulations, and tracts of mountain forests, mulberry groves, tea plantations or fruit orchards have been divided up.

In perfecting responsibility systems, attention should be directed to representative examples, using experiences gained at key points to promote work in all areas, adapting general methods to local situations, and giving tailored guidance. Production teams that practice various forms of responsibility systems linked to output should sign contract agreements in advance of the very busy season of spring farming. They should particularly do a good job of perfecting systems of responsibility that fix output quotas or assign full responsibility for task completion to individual peasant households to solve the problem of need for centralized management and mutual help and cooperation in production. Production teams practicing the fixing of output quotas or assignment of full responsibility for task completion to groups of households are to solve the problem of unified coordination, and study improvements in methods for calculating remuneration within teams. Production teams practicing fixed quota work contracting should also give serious attention to ways of upgrading and improving the system. Strict attention and implementation should be given to responsibility systems for industrial sideline occupations, for mountain forests and for economic crops. In addition, policies pertaining to farming, industry and sideline occupations should be handled well.

3. Enhancement of State Plan Guidance and Guaranteeing the Grain Crop Growing Area

In developing agricultural production, the planned economy must be foremost, market regulation supplementary. Following institution of various forms of production responsibility systems, agricultural production must continue to be carried out under guidance of state plans. There can be no growing of whatever one likes. In carrying out crop planting plans, many places are now giving attention to all-around planning that takes into account concern for all, and making equitable arrangements, the grain growing area being increased over last year. However, in many places cadre conception of state plans is weak, and a tendency toward liberalization exists in arranging crop growing areas as they take it upon themselves to pare down the grain growing area. This problem must arouse the serious attention of all levels of CCP committees and government.

It must be pointed out that ours is a province with a large population relative to available land in which the grain fields per capita average only 0.5 mu. Furthermore, population is increasing year by year, and needs for grain are steadily increasing from every quarter. During the past 2 years, reduction has occurred in the grain growing area. The people regard food as paradise, and eating is a matter of supreme importance. Unless we are ruthless about increasing grain production, development of economic diversification will be impaired; the overall national economic situation will be impaired; and even social stability may be impaired. We positively cannot have a happy-go-lucky attitude about this.

If grain production is to steadily increase, a certain growing area has to be guaranteed. The Provincial CCP Committee and the Provincial People's Government require all jurisdictions to maintain their grain growing area this year at the 1980 level, and those who have taken it upon themselves to reduce the area are to resolutely augment it. In implementing this year's agricultural production plans, they must repeatedly educate rural grassroots cadre and commune members to an all-around understanding of the program of "positively no slackening in grain production while actively developing economic diversification," concern for the situation as a whole, conscious obedience to state plans, and a guaranteed grain growing area. Furthermore, they must include these requirements in contractual agreements, and put them into effect in production teams, groups and households. Should contracting units and individuals take it upon themselves to reduce the grain growing area, all levels of the people's government should interfere administratively as required.

Commodity grain growing areas should regard even more seriously development of grain production. The should, on the basis of their own capabilities, adopt some effective economic measures to encourage production teams and commune members to grow more grain, increase grain output and provide more commodity grain to make new contributions to the country.

While giving attention to grain production, all jurisdictions should make full use of mountainlands, hills, coastal beaches and lakes for active development of economic diversification, steadily opening new fields of production.

4. Active Promotion of Agricultural Science and Technology, and Conscientious Implementation of Various Measures to Increase Output

Throughout the province, the farflung rural villages are starting a new upsurge of studying and using science. All levels of leadership should take account of this new situation and take full advantage of agricultural scientific and technical personnel at all levels, actively organize mass study of science and technology, and steadily upgrade the level of scientific farming. Right now the need is to emphasize attention to the following tasks for spring farming and production.

1. Intensification of cultivation and care of spring-flowering crops. This year's growth of spring-flowering crops has been rather poor, and there has also been a lot of rain recently requiring the digging of drainage ditches, proper fertilization, increase in prevention and control of cereal scab of wheat, barley and naked barley, in an effort to do everything possible to win a bumper harvest of spring grain.

2. Attention to spring sowing and seedling propagation. Crop patterns, the matching of crop varieties, methods of seedling propagation, and other measures for increasing yields are to be made the responsibility of teams and households. Places practicing the fixing of output or the fixing of full responsibility for task completion on individual households are to use either production team-controlled methods or voluntary association of commune members in stimulation of sprouting and planting, conscientiously fostering growth of seedlings.

3. Good use of material resources, such as fertilizer, seeds, farm implements and plow oxen. Advantage should be taken of the time before transplantation of the early rice seedlings to arouse the masses to grow grass and duckweed, to handle well policies on accumulation and contribution of fertilizer, and to increase accumulations of all kinds of miscellaneous fertilizers. There should be an all-around good job done of inspecting seeds, sunning them, selecting them and redistributing surpluses to areas of shortage. Early preparations should be made against a general shortage of seeds for the late crop. Seed production for hybrid rice should be planned in a centralized way, arrangements made and work started early. Urgent attention should also be given to farm tools, farm machines, plow oxen and material preparations of all kinds. In addition, it is necessary to buttress water conservancy project maintenance and management to assure water for use in agriculture.

All levels of leadership are to organize the strength of agricultural technology promotion units and scientific research units to zero in on the weak links in agricultural production in different areas, study ways to increase output, and help the masses solve problems in technology. The agricultural technology promotion network should be perfected, and a good job done in running commune agricultural science stations to take full advantage of their role. Various means, such as the running of technical training courses, on-site demonstrations, and making the rounds to give instruction, should be used to extend various effective measures for increasing outputs.

5. All Trades and Industries Are to Serve Agriculture, Actively Taking the Initiative to Assist Spring Farming and Production

Building of a solid agricultural foundation requires mobilization of forces everywhere to assist agriculture. Trades and industries may not regard service to agriculture as an added burden, but should regard it as a matter in which they have a stake. In giving help to agriculture, they should not consider only their own profits and losses and their own gain, but should be concerned about the concerns of agriculture, and think the thoughts of agriculture. Whatever agriculture urgently requires should be done whether or not there is any profit to be made. Even if losses ensue, it should be done; one cannot do only things that make money.

In order to support spring farming and production before it is too late, agricultural, industrial, scientific and technical, planning, materials, commercial, supply and marketing, transportation, and banking units should act on the basis of the new situation following establishment in rural villages of production responsibility system to formulate plans to help spring farming and production. They should prepare for and carry out promptly solutions to problems such as supply of materials, technical guidance, farm machinery maintenance and repair, providing energy, and issuance of farm credit to make a contribution to support of agricultural production.

9432
CSO: 4007/342

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TITLE: "Research on Axial-flow Threshing Cylinder"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 1, 1982 pp 55-72

TEXT OF ENGLISH ABSTRACT: In 1978 we built a large testing bed for axial-flow threshing cylinders, which were changeable for three types of cylinders, four concave types and five types of cylinder covers. Comparative tests can be made on seven different arrangements of the above-mentioned parts. During 1979-1980, we conducted 120 tests with this bed on threshing wheat, soybeans and maize.

Our conclusions are as follows:
1. For the seven arrangements of the working parts, the feeding capacities can all reach 6 kg/sec, loss percentage less than 1 percent, broken seed percentage of soybeans 0.5 ~ 1 percent, of maize 3 percent. Among them, the arrangement of spike tooth-vane type cylinders with three-grates type concave gave the strongest separating capacity and the best adaptability of seed moisture content, but it consumed more power. The arrangement of raspbar-vane type cylinders and three-grates type concave gave the best comprehensive results, but was less adaptable with seed

[Continuation of NONGYE JIXIE XUEBAO No 1, 1982 pp 55-72]

moisture content.
2. In the tests of all arrangements, the percentage of foreign substances in the threshed products was rather high when threshing dry wheat and soybeans, less when threshing wet wheat, and minimum when threshing maize.

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I. GENERAL INFORMATION

STATE COUNCIL DIRECTIVE ON GRAIN PROCUREMENT, SALES ISSUED

Beijing ZHONGGUO CAIMAO in Chinese 20 Mar 82 p 1

[Article: "State Council Decides Sole Responsibility Work Contracting for Grain Procurement, Marketing, and Allocation Guaranteed Unchanged For Three Years Beginning From This Year's Grain Year"]

[Text] In order to meet the new circumstances in national economic development and to carry out the program of "positively no slackening of grain production while actively developing economic diversification," the State Council has decided that beginning from 1 April this year, that is the beginning of the 1982 grain year, that except for Tibet and Xinjiang, all provinces, municipalities, and autonomous regions will institute sole responsibility work contracting for grain procurement, marketing and allocation, guaranteed not to change for 3 years.

The State Council approved management method of sole responsibility work contracting for grain procurement, marketing and allocation guaranteed for a period of 3 years stipulated that the agreed upon fixing of all sole responsibility grain figures is to be done by refering to actual figures for the past several years, with future changes in development of grain production, procurement, and marketing taken into consideration. Sole responsibility figures for marketing include both nonagricultural and agricultural marketing as well as grain for special use expended by the central government. Inbound grain transfer sole responsibility figures include normal allocation and grain for special use expended by the central government, and outbound grain transfer sole responsibility figures are outbound transfer figures minus special use grain, and determination of quantities of principle kinds of grain inbound and outbound. After all the sole responsibility figures have been determined, they will remain unchanged for the 3 year period from 1982 to 1984.

This method provides, inter alia, that in order to meet the new circumstances in the collective agricultural economy of instituting production responsibility systems, the state may institute sole responsibility contracting for excess grain procurement by production teams guaranteed for a period of 3 years. After production teams, groups, and households have fulfilled their excess procurement tasks, they have the right to dispose of excess grain as they see fit. Production teams growing cotton, sugar crops, and vegetables, or engaged in fishing, salt making, forestry, or animal husbandry under guidance of the state plan, and those selling products to the state in accordance with the plan that are grain deficient year after year may institute sole responsibility work contracting for grain marketing guaranteed for a period of 3 years.

This method also stipualtes that once the state sets sole responsibility work contracting figures for grain procurement, marketing, and allocation, as a rule no readjustments will be made. Within the period of sole responsibility work contracting, when provinces, municipalities, and autonomous regions purchase more grain that they sell, it will be the responsibility of localities to store it as reserves from bumper years against lean years. If because of natural disasters or for some other reason new grain shortages occur, locales should take action themselves to solve the problem. In major disaster years when the central government is required to transfer grain to solve the problem, localities will subsequently have to pay it back. After all jurisdictions have fulfilled state excess grain procurement tasks, they may enter into negotiated purchases and negotiated sales of grain to move grain from surplus areas to shortage areas so as to enliven the markets, to even out grain prices, and to make negotiated pruchases a supplementary channel by which the state can control grain sources. Following sole responsibility work contracting for grain, all jurisdictions must conscientiously implement pertinent grain programs and policies formulated by the State Council.

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COMPOUND LIVESTOCK FEED INDUSTRY DEVELOPMENT EXAMINED

Beijing RENMIN RIBAO in Chinese 19 April 1982 p 2

[Article by newspaper commentator: "Give Serious Attention to Development of China's Livestock Feed Industry"]

[Text] During the past few years, the livestock feed industry has developed fairly rapidly. The country has built 358 compound (mixed) livestock feed processing plants with a year-round output of more than 2,000 tons, and another 100-odd plants are in process of construction. Once construction of these plants has been completed, compound feed total output capacity will reach more than 2 million tons. Nevertheless, this is only about 4 percent of the country's total consumption of livestock feed, and is far from being able to satisfy the needs of animal husbandry industry production. Consequently, how to further develop the country's livestock feed industry should arouse the serious attention of leaders concerned.

Currently some comrades lack an accurate perception about development of the livestock feed industry. For example, some people suppose that "the problem of adequate grain production has not been solved yet, so it will be difficult to provide for livestock feeds," or "why be so fussy about livestock and poultry feed?" Such views are not well thought out. It is precisely because ours is a country with a large population relative to available land in which average grain levels are relatively low that compound livestock feeds are necessary in order to conserve grain. A comparison of the compound feeds that the country produces now with ordinary livestock feeds shows that when fattening hogs, the feeding time can be reduced by 2 to 3 months for a drop of about 20 percent in feeding costs. Its economic value is extremely clear.

One also hears that "compound livestock feed requirements are high, and China's livestock resources are inadequate to meet them." Certainly China's livestock feed resources are insufficient and quality is not high. However, one should also realize that many of the country's resources have yet to be used in a fully sensible way, and that even waste exists. For example, the cake residue from cotton and rape seeds has a 30 to 40 percent crude protein content. Each kilogram contains 3,000 digestible calories of heat, making them a fine plant protein livestock feed. Annually about 7 billion jin of such seed cake is largely used directly for fertilizer. Were it used as livestock feed first and later as fertilizer, or if the cake were added to a proper amount of grain and bran for feeding hogs, not only could grain be saved, but the effectiveness as fertilizer of the hog dung and hog urine would be much higher than that of the cake alone. Were half of the cottonseed and rapeseed cake produced annually in the country used for livestock feed, pork production could be increased by more than 600 million jin. In addition, some of the leftovers from the food and aquatic products industries as well as powdered silkworm chyrsalis also make fine sources of livestock feed. If only we would use them well, the problem of livestock feed sources could be gradually solved, and the livestock industry now abuilding would have great prospects.

Naturally this is not to say that there are no difficulties in development of the livestock feed industry. For example, financial and material resources are insufficient, and experience and technical strength is lacking. Therefore, how to develop a livestock feed industry with a Chinese character is a topic that merits our study. In this regard, some advanced areas have provided us fairly good experiences. On the basis of their own circumstances, Changzhou, Wuxi, and Suzhou in Jiangsu Province have made full use of existing enterprises to rebuild their livestock feed processing plants, receiving economic benefits in little investment of funds for quick results. The experiences of these areas show that the building of livestock feed processing plants requires proceeding on the basis of China's circumstances, acting according to capabilities, and being concerned about economic benefits. Naturally, it is also necessary to work from a universal basis to give attention to improving work. For example, in places developing livestock feed industries that have fairly good size, funds, and technical conditions to begin with, attention should be placed on improving technological equipment, on gradually operating a livestock feed additive industry, and an enriched livestock feed processing industry so as to increase the varieties of livestock feeds and improve livestock feed quality. You can believe that with further readjustment of the national economy, a new situation of rapid development will inevitably develop in China's livestock feed industry.

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REPLACEMENT FOR MERCURY AND ARSENIC PESTICIDES REPORTED

Shanghai JIEFANG RIBAO in Chinese 15 Apr 82 p 2

[Article: "Particularly Effective New Pesticide To Prevent Cotton Seedling Root Disease and Wheat Smut. Toxicity Less Than One-Thousandth That of Former Pesticides"]

[Text] There is good news for peasants. The formerly difficult to control damping off and anthracanose of cotton, cotton seedling root disease, and wheat smut now have particularly effective new pesticides--"Banzhongling" and "Banzhongshuang." These new pesticides were successfully developed by the Shanghai Pesticide Institute. Recently, following approval by units of the Chinese Academy of Agricultural Sciences organized by the Ministry of Agriculture, they went into large-scale production.

Cotton seedling root disease and wheat smut are two of the 14 main agricultural diseases in China that cause extreme damage to the growth of cotton and wheat, frequently occasioning severe declines in output. Because of a halt to the use of "Ceresan" [ethyl mercuric chloride] and "Sanlisan," pesticides in which seeds were mixed, but which contained mercury that polluted the environment, and because of limitations on use of "Daojiaoqing" pesticide, which contains arsenic, in some places when cotton was planted only untreated seeds went into the fields, and cotton seedling root disease has made a general comback in all cotton growing areas. In order to solve this problem, following many years of research, the Municipal Pesticide Institute finally succeeded. Its toxicity is less than one-thousandth that of pesticides formerly used. Experiments conducted in cotton growing areas of Hubei show 65.8 percent effectiveness in the prevention and control of cotton seedling disease, and a maximum effectiveness of 85.5 percent. Experiments conducted in cotton growing regions of Heilongjiang Province show a better than 85 percent effectiveness in prevention and control of wheat smut, vastly higher than pesticides containing mercury or arsenic.

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PURPOSES, PROCEDURES FOR LOAN ISSUANCE OUTLINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 25 Mar 82 p 2

[Article by Lu Jianxiang [6424 1696 4382]: "How to Improve Agricultural Loan Economic Benefits"]

[Text] In his report titled, "The Present Economic Situation and a Program For Future Economic Construction," Comrade Zhao Ziyang pointed out, "Using every available means to increase economic benefits in each of the fields of production, construction, and circulation is a central issue." Natural this is also a central issue in agricultural loan work, and is a standard for evaluating the quality of loan fund use. Economic benefits from loans are manifested in two ways. First is whether production by the unit or individual supported by the loan produces the economic benefits it should. Second is whether the loan can be recovered on time for steady acceleration of the circulation of funds. The two are interrelated, but the former is fundamental.

In 1981 economic benefits derived from agricultural loans improved nationally. However problems of continued lack of serious attention to economic benefits remained in some places. Some loans have not been used to support key projects for increasing commune and production brigade increases in production and income. Some loans have been used by speculators and profiteers, and not only did not play a role in development of production, but rather destroyed production. Still other loans were turned into loans to provide favors, being diverted to help people invite others to dinner or send gifts in a bad situation of extravagance and waste. Even loans used for relatively porper purposes did not bring the economic benefits they should have.

How can the economic benefits derived from agricultural loans be improved? First it is necessary to do a good job of investigation and study in issuing loans. Only when circumstances are clear can loans be approved and be good loans. First, it is necessary to investigate whether the borrowing unit or individual's activities are in accord with provisions of state plans, whether they are in accord with party and state programs and policies, and whether they are in accord with requirements for readjustment of the agricultural economy. Second is investigation of the borrowing unit or individual's operating situation, production capabilities, and technical level. Third is investigation of whether the items for which the loan is to be issued will make the most of local advantages, achieving large economic benefits and quick results from little investment, and whether production, supply, and marketing channels are unimpeded.

Fourth is the need to investigate whether the borrowing unit or individual's credit and loans have adequate material backing, and what are their capabilities for repayment of the loan. From a basis of understanding circumstances, and in accordance with loan policies, principles, and plans, factually determine the purpose for which the loan is to be used, the amount, how it will be used, and its length.

Secondly, banks and credit cooperatives must link their own economic benefit and the economic benefit of the borrowing unit or individual, making lending operations penetrate into the individual links of production, exchange, distribution, and consumption of the object for which the loan is used. Only after credit funds have been loaned out and the objective for which the credit was issued goes into production can new value be created. Therefore, banks and credit cooperatives must go into the areas of production and circulation and think about what producers think about, worry about what producers worry about, and help producers with their needs, doing a conscientiously good job of production. It is also necessary to fully apply the wideranging quality of financial operations to open production and marketing channels, combining unit or individual operations with society's needs. Additionally, credit funds are intermingled with the borrowing unit or individual's funds, and with funds from other sources. This requires that banks and credit cooperatives help those to whom loans have been made do a good job of financial management, make equitable use of funds, reduce labor expenses, and improve the labor productivity rate to gain fairly high economic benefits.

Third is active promotion of loan agreement systems and diligently carry out economic contract methods. Loan agreements protect the interests of both borrower and lender and assure on-time repayment of loan funds. They are important contracts enjoying protection of the law. They are major means by which banks and credit cooperatives manage and use funds. Therefore, it is necessary gradually to establish and perfect agreement systems. When both borrower and lender sign the agreement, they must obey the legal stipulations, and diligently carry out pertinent party and state programs and policies. They must carry out a program of the planned economy foremost, market regulation supplementary. They must abide by the principles of equality and mutual benefit, reaching unanimity through consultation, and payment at equal value. Agreements link loans to the individual links of production, exchange, and distribution to form an interdependent and mutually restrictive organic whole that together promotes development of production and circulation of funds.

Fourth is help to borrowing units to do a good job of distributing profits. The principle of the interests of the country, the collective, and individuals must be adhered to, borrowing units being helped to verify earnings, recover "outstanding debts," repay "debts outstanding," not make any false estimates, or rash distributions, on the one hand, and in accordance with national policy stipulations to deduct all taxes to be paid, accumulations to be withheld, various expenses, and honoring required distribtuions to commune members on the other. Only in this way can the collective economy be strengthened and the enthusiasm for production of commune members be aroused. Bank and credit cooperative recovery of loans on due dates will also be assured. If these four kinds of work are done well, economic benefits from agricultural loans will gradually increase, thereby promoting development of the rural economy.

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PREVENTION OF WHEAT DISEASE ERYSIPHE GRAMINIS DC URGED

Disease Widespread

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article: "Tightly Grasping the Prevention and Control of Erysiphe Graminis DC, at Present, Disease in Some of the Wheat Regions in the Middle and Lower Reaches of Changjiang and Henan and Shandong Has Already Occurred. It Is Hoped That Each Locality Can Grasp the Task of Organizing Prevention and Control Tightly To Assure a Bumper Harvest of Summer Food Grains"]

[Text] In recent years, Erysiphe graminis DC has gradually worsened in the nation's large wheat regions. It has become a serious threat to summer food grains production. Last year, in some of the wheat regions in the middle and lower reaches of Changhiang and the north, summer food grain production dropped by 10 to 30 percent because of Erysiphe graminis DC. At present, the disease has occurred commonly in Hubei. The rate of occurrence of the disease in seriously affected regions of wheat fields has reached 100 percent. It is estimated that by the middle 10 days of April, a peak occurrence of the disease will occur. The disease has also begun in many regions in Jiangsu. According to forecasts by forecasting stations in Wuxian, Jiangying, Xinghua, and Funing counties, this year is also a year of serious outbreak of the disease. The occurrence and the degree of damage will approach those of last year, but the period of peak occurrence will be 10 days later than last year. The occurrence of the disease in the suburban counties of Shanghai City and in Anhui is similar to that in Jiangsu. The occurrence of the disease in most regions in Zhejiang is medium to slightly severe, although less severe than last year, but still more severe than other years. Occurrence of the disease in Hunan and Sichuan is not balanced. For example, the disease is more severe in Cili, Shaodong, Leshan, Chongqing, Rongxian counties and Rongxian city while the disease is slight in regions where spring drought has occurred and where water and fertility conditions are poor. The occurrence of disease in the highly fertile and highly irrigated wheat regions in the Huanghe River Valley in Henan and Shandong will also be medium or medium to slightly severe.

Because most of the wheat varieties cultivated at the various localities at present are not resistant to the disease, the major outbreak of Erysiphe graminis DC in the wheat regions last year has accumulated a large amount of bacterial sources this year. Each locality reported that this year, the application of nitrogen fertilizers was generally too much and too late. These all provided conditions for the spread of the disease. According to meteorological reports, some parts of the middle and lower reaches of Changjiang and Henan and Shandong had more rain. The temperature was slightly lower or approached that of normal years. These are favorable to the occurrence of the disease. It is hoped that each locality strengthens field surveys, combines local weather forecasts, does not lose the opportunity to organize prevention and control efforts to control the spread of the disease and to assure a bumper harvest of summer food grains.

Characteristics of Disease

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article by Geng Bingjin [5105 4426 2516] of the General Forecasting Station of Agricultural Diseases and Insect Pests of the Ministry of Agriculture: "Erysiphe Graminis DC"]

[Text] Erysiphe graminis DC is a fungus disease. The leaves, the leaf sheath, the glume of spikes and the stem can all become infected by the pathogenic bacteria. At the beginning stage of the disease, small and light yellow spots first appear on the leaves. Then they expand into circular or oval diseased spots. White powder composed of hypha and separately growing spores occur on the diseased spots. During the late period of the disease, the diseased spots become greyish brown. As the disease develop, the green color of the leaves gradually fades and becomes yellow until the leaves wilt.

Erysiphe graminis DC selects its host strictly. Its spores are propagated by air currents. It most easily causes infection and spreads under a temperature of 12 to 18°C and when the humidity is saturated. In spring, the temperature is slightly higher. During the heading and flowering periods of wheat and barley, the weather is continuously overcast, sunshine is deficient, and humidity is too high. If drainage in the field is poor, and if too much nitrogen fertilizer has been applied, the disease can occur more easily.

Method of prevention and control: 1) select disease resistant superior varieties; 2) plant rationally densely and apply fertilizers so that nitrogen, phosphorus and potassium are used in balance, appropriately increase the application of phosphorus and potassium fertilizers, pay attention to cleaning the furrows and drain the water; 3) for prevention and control by chemicals, a lime and sulfur compound, carbendzxol, Tuzet, thiophanate can be used.

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BRIEFS

HIGH LYSINE HYBRID CORN--Corn expert Li Jingxiong [2621 4544 7160] of the Crop Breeding and Culturing Institute of the Chinese Academy of Agricultural Sciences has bred China's first group of high lysine corn hybrid varieties, "Zhongdan 201," "Zhongdan 202," "Zhongdan 203," and "Zhongdan 204." Test results obtained during the past 2 years from more than 30 different sites have shown yields per unit of area approximating those of the presently widely grown fine hybrid variety, "Zhongdan No 2." Yields are generally around 800 jin per mu and maximum yields are more than 1,000 jin. These varieties are resistant to large and small leaf spot. [Text] [Lanzhou GANSU RIBAO in Chinese 22 Mar 82 p 3] 9432

IMPROVED SHEEP RAISING TECHNIQUES--Promotion of China's sheep improvement techniques has been going on for 30 years. Beginning with experiments in the period immediately following founding of the People's Republic, it went through the importation from abroad of fine varieties, use of artificial insemination techniques, development of improved hybrids, and on to the breeding of new breeds. At one time improved fine wool and semi-fine wool sheep numbered fewer than 10,000 head, but by the end of 1980 this number had grown to 36 million head or 35 percent of the total number of sheep in China. Prior to 1971, 80 percent of the wool used by the textile industry came from imports, but now 80 percent is domestically produced wool. In terms of economic benefits, a single improved breed fine wool sheep averages 3.5 kilograms of wool. Income from wool production alone is 14 yuan more than from indigenous sheep breeds. The 36 million head of improved sheep have increased output value by a total of more than 500 million yuan. In addition, they have increased mutton output by an annual more than 300,000 tons, with a value of more than 45 million yuan. Xinjiang Province, the first area in the country to begin production of fine wool sheep breeds, "Xinjiang combination wool and meat fine wool sheep," has promoted a large number of fine breed sheep everywhere and has played an important role in China's sheep improvement work. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

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IMPROVEMENT SOUGHT IN EARLY RICE YIELDS

Fuzhou FUJIAN RIBAO in Chinese 24 Mar 82 p 1

[Article by Zhang Yonghe [1728 3057 0735], Longyan Correspondent Station: "Devote Efforts To Increasing Grain Yields Per Unit of Area. Longyan Prefecture Taps Potential To Do a Good Job of Scientific Farming"]

[Text] Proceeding from a foundation of setting the area to be planted to early rice, Longyan Prefecture leadership organizations have gone on to propose a main attack on yields per unit of area and the use of every available means to win a bumper harvest from the early crop.

Following investigation and study, the Longyan Prefecture CCP Committee and government administrative offices acknowledged Longyan Prefecture's consecutive increases in output during the past several years. Nevertheless, the prefecture's potential for increased output is still very great. A look at the prefecture's 2.08 million mu of grainland shows yields of double crop early rice to have been as high as 1,600 jin and as low as slightly more than 300 jin for an average of 499 jin. For intermediate rice, yields per unit of area were as high as slightly more than 1,500 jin and as low as slightly more than only 200 jin for an average of 542 jin. For double crop late rice, maximum yields were 1,500 jin per mu and minimum yields were 200 jin per mu for an average of 442 jin per mu. The differences between highs and lows have been very great. Were the prefecture's early rice yields per unit of area to increase to 800 jin, an increased output of more than 400 million jin would result from this increase alone.

How can grain yields per unit of area be made to rise? The Longyan Prefecture CCP Committee and government administrative offices have proposed, first of all, an adaptation of general methods to specific situations, and equitable readjustment of agricultural crop patterns, all places that lend themselves to the growing of double crops of rice persevering in the growing of double crops of rice. However, in places where the frost-free period is short and outputs from the growing of double crops of rice inconsistent, commune members should be encouraged to grow one crop of rice and one crop of miscellaneous other grains. In this way, consistently high grain yields can be assured and the growing of economic crops expanded to achieve development of both grain and economic crops. In another realm, commune members should also be encouraged to farm responsibility fields, make full use of the ground and of empty spaces for sensible amounts of intercropping, and arranging things flexibly.

Second, the level of scientific farming should be increased, key agricultural science and technology measures taken firmly in hand with vigorous promotion of high yield, strongly disease resistant varieties of early rice. For double crop rice, it is necessary diligently to summarize the lessons of many years' experiences of early rice sustaining damage from "May cold," for scientific planning of sowing and planting time. Special attention should be focused on the main reasons why rice yields per unit of area are not high, namely few effective panicles, a low heading rate, a lot fruiting rate, and low per thousand grain weight. Reasonably close planting should be done to increase the number of effective panicles. In view of the situation throughout the prefecture of imbalanced fertilization with nitrogenous, phosphate, and potash, cutbacks should be made in the amount of nitrogenous fertilizer used while use of phosphate, potash and organic fertilizer should be increased, the organic fertilizer allowing cutbacks in the quantity of chemical fertilizer used. In addition, a diligent job should be done of monitoring, reporting, preventing, and controlling diseases and insect pests.

Third is strengthening of the building of an agricultural technical crops. A personal responsibility system should be established for agricultural technical cadres and rotational training of the existing 1,900 agricultural technical cadres should continue. Focus should go on helping the more than 60,000 science and technology households study scientific agricultural knowledge, the experiences of competing for first place in high yields of intermediate rice of Yongfu Commune in Zhangping County being promoted so that scientific farming levels everywhere in the prefecture levels everywhere in the prefecture will go up a notch, forming movement for increased grain yields centering on a major attack on per unit yields.

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MAJOR EFFORT DECREED TO IMPROVE YIELDS FROM LOW-YIELD FIELDS

Fuzhou FUJIAN RIBAO in Chinese 24 Mar 82 p 1

[Article by Wu Wenkeng [0702 2429 6972], Jianyang Prefecture Communications and Liaison Station: "Direct the Main Attack Against Intermediate and Low Yield Fields. Jianyang Prefecture Takes Firm Grip on Key Points in Implementing This Year's Measures for Increased Yields, Taking in Hand 1.45 Million Mu of Intermediate and Low Yield Fields"]

[Text] Recently Jianyang Prefecture convened a conference for exchanges of experiences on agricultural science and technology at Chongan County. At this conference, the Prefecture CCP Committee proposed the following. The prefecture's grain production this year is to be on the basis of stabilizing the existing grain growing area, and the main direction of attack is to be changed to improvement in low yield fields, inasmuch as there are many low yield fields in the mountain areas of northern Fujian, to increase yields per unit of area. Delegates related to this decision on the part of the Prefecture CCP Committee the fact of last year's furious efforts on 1 million mu of intermediate and low yield single crop late rice fields, which increased output by 70 million jin. They acknowledged the direction of attack to be the right one and in accord with reality.

Jianyang Prefecture has 3 million mu of cultivated land and sows an area of 5.4 million mu [by double cropping part of the 3 million mu], 1.95 million mu with double crops of rice, and 1.05 million mu with a single crop of rice. In 1981 double rice crop yields averaged 473 jin per mu, 600,000 mu yielding less than 400 jin per mu. Double crop late rice yields averaged 479 jin per mu, 400,000 mu yielding less than 400 jin. Single crop late rice yields averaged 510 jin per mu, 450,000 mu yielding less than 450 jin per mu. Low yield fields thus amounted to 1.45 million mu. In view of these circumstances, the Prefecture CCP Committee regarded as not very high northern Fujian grain yields per unit of areas and believed potential to be very great. If only increases of 50 jin per mu could be realized from these intermediate and low yield fields, which account for one-fourth of the total, output could be increased by 72.5 million jin, three-fourths of the quota for increased output for the entire year.

The Prefecture CCP Committee proposed the following actions in the attack on intermediate and low yield fields:

1. Attention to propaganda and education work to correct an attitude that emphasizes high yield fields and slights low yield fields, emphasizes good fields and slights bad fields, and emphasizes fields close by one's dooryard while slighting ridged fields in distant mountains that exists among some cadres and masses. 2. Further summarization, perfection, and consolidation of agricultural production responsibility systems, diligent attention being given the making of contracts. These contracts may be guaranteed without change for 3 or 5 year periods so that peasants can do some long-range planning on improvement of low yield fields. 3. Energetic promotion of scientific farming. The main reasons for low yields from low yield fields in northern Fujian mountain areas are, first, natural disasters, foremost of which are "return of spring coldness," "May cold," "autumn cold," "high temperatures," and "June rains." Second is disease and insect pests, notably blast of rice. Third is seedlings just sitting without growing. In this regard, vigorous efforts should be made to increase combat against disasters, to guard against disease, and to do agricultural science and technical work. Fourth, all trades and industries should vigorously support agriculture, and vigorously improve low yield fields.

Right now all jurisdictions are in process of implementing the Prefecture CCP Committee's actions and arousing the masses to do a good job of spring farming and production.

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IRRIGATION PROBLEMS RESULTING FROM DECENTRALIZATION DISCUSSED

Fuzhou FUJIAN RIBAO in Chinese 18 Mar 82 p 2

[Article by Reporters Lin Ben [2651 1149] and Yan Zhenyu [7346 2182 5148]: "Solution to the Problem of Farmland Irrigation Difficulties"]

[Text] In some counties and communes in Jinjiang Prefecture, spring drought has appeared during the past several days, and water is badly needed both for wheatfield irrigation, and for spring farming of the thawed fields, yet people rarely go to the reservoirs to request release of water. Could it be that there is no water in the reservoirs? No. Units concerned have explained that more than 300 million cubic meters of water are in storage in reservoirs of all kinds throughout the prefecture, and water is sufficient for spring farming. Then why has this abnormal situation occurred?

We conducted an investigation in Jinjiang Prefecture agricultural units where we learned it is mostly because following rural promotion of various forms of contract responsibility systems linked to output, a series of new circumstances and new problems have arisen in management and use of water, and these new circumstances and new problems have not yet been satisfactorily solved. They are mainly as follows.

First, the units using water have changed. Formerly it was production teams and villages that made collective requests to reservoirs for the release of water. They contracted for an amount of flow, fees being collected per cubic meter under unified management. Last year following institution of production responsibility systems, units requesting use of water changed from teams and villages to myriad households.

Second, the organization in charge of water has scattered. Formerly each irrigation zone established an irrigation zone representative assembly, which held regular meetings and studied farmland irrigation problems. A combination of specialized management and mass management was practiced in water conservancy and irrigation. In the irrigation zone, every production brigade had a chief of brigade water control, and every production team had personnel for water control who were responsible for brigade and production team requests for water, release of water, and collection of fees. After responsibility systems were put into effect, the commune, brigade, and masses control teams came to a standstill, and in many brigades and production teams in which the problem of their remuneration had not been solved, the personnel in charge of water control simply disappeared and no one was centrally responsible for requesting water, releasing water, or collecting fees.

Third is difficulties in asking for water and releasing water. Nowadays no one is in charge of silt removal from the ditches, so anyone who wants to request water frequently has to remove the silt himself. As a result, commune members who have contract fields "on the tail end of the water" back away from using water because they fear that because of the long ditches, much water will be consumed and they will have to spend a lot of money, in addition to which they will have to clean out the ditches. Commune members at the "head end of the water" like to wait until those "on the tail end of the water" ask for water. They then take the occasion to intercept the water or bail it out with buckets rather than ask for water themselves. In some places have appeared "strong ones" who won't ask for water, and "weak ones" who do not dare ask for water. When water is used, no one admits to owing for it, and when water is released no one looks after it, which has led to outbreaks of quarrels over water rights and the destruction of water conservancy facilities. Last year at Nan'anguanqiao Commune, because commune members at the "head end of the water" and at the "tail end of the water" took a wait-and-see attitude toward each other, much of the several tens of mu of crops parched to death creating a drop in output. Nowadays in some places where fields need water, the same thing happens.

Because leaders devoted considerable attention and adapted to the new rural situation of production responsibility systems, strengthened investigation and study, and adhered to the mass line at the Sizhou Reservoir in Huian County, the Houqiao Reservoir in Nan'an and at other places in this prefecture, water conservancy and irrigation problems were solved rather well. Now that the need for water for spring planting is extremely imminent, all levels of leadership must solve the following several problems.

1. Rapidly revive and reestablish the mass control corps for water conservancy. Production birgades and production teams are to revive and put in place personnel in charge of water, establishing centralized planning, centralized irrigation, and centralized settlement of accounts and payment of water fees by commune members using water to irrigate their fields. In units in which the collective economy is run fairly well, remuneration for water control personnel may be paid from the collective's "three monies," or from earnings of commune and brigade enterprises. In units in which the collective economy is fairly weak, discussions may be carried out with the masses to find some other means of providing allowances. Where conditions permit, irrigation zone representative assemblies may also be revived and hold regularly scheduled meetings to study irrigation zone irrigation problems, and to work out systems of responsibility or rural civil agreements to resolve fights over water rights. Specialized reservoir corps should also be strengthened, and specialized personnel motivated to develop the raising of fish, the growing of fruit and processing in reservoir areas as part of economic diversification to increase earnings to solve present difficulties in some reservoirs of "using water to support water."

2. The problem of clearing silt from ditches must be solved. In many places a system of contracting the clearing of silt from sections of ditches virtually does not exist. In some brigades or production teams, only when compelled by circumstances are some people called upon to clear the ditches, and more than 2 yuan per day in wages has to be paid before anyone is willing to do it. They

do not dare arouse commune members to contribute obligatory labor fearing increase in unreasonable burdens on the peasants. When we solicited the views of some comrades in prefecture agriculture departments, they felt that proper organization of peasants to do some obligatory labor in public welfare endeavors such as removing silt, looking after dikes, and protecting water conservancy facilities was permissible and could not be considered an unreasonable burden. Some suggested that it might be possible to revive the method used before the "cultural revolution," of centralized control by communes. In this way, removal of silt and requests for water could be dealt with promptly for the convenience of commune members. All locales can discuss this problem to find a way to solve it.

3. Need for change in method of collecting water fees. Judging from the experiences of some communes and brigades in Jinjiang Prefecture, a change to the collection of fees in cash would be well received by users. Of course, one can also proceed from realities to adopt some other method. For example, payment can be made first and accounts settled later, or tickets for water could be purchased with cash ahead of time and water provided in return for water tickets. Under special circumstances, water could be released into culverts or conduits at the time cash was paid. If these methods posed difficulties, water could be released and regular fees paid later on the basis of contracts, etc. Where conditions permit, communes and production brigades might also take control of the water with uniform payment of water fees.

4. Support and coordination required from every quarter. For example, the Shanmei Reservoir irrigation zone extends over three counties and one city, but a problem that is now encountered is that water is released only when they want to generate electricity. Sometimes farmlands urgently need water, but they will not start up the machinery to release water. Last year, for example, Huian encountered such a situation in combating drought, and the masses have a lot of complaints about it. They demand that water and electricity be closely coordinated, with overall arrangements made so that electricity can be generated to increase economic benefits, and irrigation of the fields can be assured to support agricultural production.

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NEED FOR GRASSROOTS IDEOLOGICAL INDOCTRINATION UNDERSCORED

Fuzhou FUJIAN RIBAO in Chinese 5 Feb 82 p 2

[Article by Sanming Prefecture CCP Committee Secretary Deng Chao [6772 6389]: "Affirm the Rural Mainstream and Correctly Guide"]

[Excerpts] As a result of resolute implementation of the spirit of the Third Plenary Session of the 11th Party Central Committee and the steady elimination of "leftist" ideology, Sanming Prefecture's rural villages' total grain output for 1981 surpassed the all-time high; economic diversification increased tremendously; and commune and brigade enterprises continued to develop. The broad masses of peasants became even more enthusiastic about socialism and had full confidence in prospects for the four modernizations. Nevertheless, some new problems urgently in need of solution also appeared, foremost of which were the following: Some cadres and members of the masses mistakenly supposed that peasant household assumption of full responsibility for task completion meant "return to families of land and a division of the field for working individually," consequently dividing up the cultivated land and collective property on the basis of population. Some people did not want to assume any obligations or responsibilities whatsoever, and when it was time to sign contract agreements, they higgled and haggled or raised an unreasonable rumpus, refusing to sign or, having signed, refusing to implement. Some cadres and members of the masses mistakenly supposed that following peasant household assumption of full responsibility for task completion that "everything reverted to individuals for handling with no need for leaders," and they would not listen to proper guidance. Some production brigade and production team cadres did not dare work boldly; they cared only about their own individual production, and were unconcerned about the public welfare. Some state cadres even used the excuse of returning home to help their dependents a farm the land to absent themselves from their duty posts for long periods of time. In some places evil winds and noxious practices sprang up in smuggling, opportunism and profiteering, reckless felling of trees and denudation of forests, feudal superstitions, gathering together to gamble. and taking over good farmland for the building of houses. Some of these practices came into being under the leadership of grassroots organization leaders or with their tacit permission. The Prefecture CCP Committee felt that though these problems were confined to a minority of communes and brigades, and were problems of understanding for the most part, nevertheless, if allowed to spread, they would become unmanageable. In mid-November 1981, the Prefecture CCP Committee decided that following the harvest, concentrated indoctrination on socialism and patriotism would be given the peasants. Prefecture leadership comrades went to the countryside to propagandize, and CCP committees in counties (or municipalities) and communes ran pilot projects. Two months of experiences have shown that all levels of the party organization have had some new understandings about conducting regular indoctrination and providing correct guidance for the broad masses of peasants.

(1)

One must firmly believe that the broad peasant masses want to take the socialist path under the leadership of the party.

In our prefecture, more than 90 percent of all production teams practice either peasant household assumption of full responsibility for task completion or the fixing of output quotas based on households as forms of production responsibility systems. We have demonstrated as a result of much investigation that it is the fetters of egalitarianism, excessive burdens, and resort to coercion and commandism, which have endured without solution for many years, that the broad masses of peasants want to free themselves from, but they still strongly demand that the party give correct guidance and develop socialist agriculture. This is the mainstream in rural villages. This fundamental estimate can find fresh reflection in the following several matters.

One is that results of last year's struggle against disaster were even better than had formerly been estimated. During the first half of 1981, a "June freeze" such as has rarely ever taken place occurred in our prefecture, and quite a few communes and brigades also sustained torrential rains and floods. Of particular note was the worst outbreak of rice blast since Liberation. Large areas of early rice were devastated, and it continued to spread to double cropped late rice fields and single crop late rice fields. Faced with a situation of such serious hardships, no flights of peasants from famine occurred in rural areas. Under the guidance of the party organization at all levels, the broad masses of peasants prepared to combat disaster, and many moving, real-life incidents occurred. Early crop losses in the prefecture amounted to 200 million jin, but after arduous struggle, defeat was finally turned into victory, and a heartening achievement of an increased grain output of somewhat more than 30 million jin for the year as a whole was won by the prefecture.

Another is the establishment and perfection of agricultural responsibility systems that are more healthy than had been originally forecast. This is a large-scale transformation that affects a myriad of households, the development of which has been extraordinarily rapid, yet major public property such as forest trees, water conservancy, and plow oxen have not been destructively damaged. Statistics show that in 1981 the mountain areas burned in the prefecture declined by almost half over the previous year; reckless felling of trees and denudation has rapidly taken a turn for the better; and an increase has occurred in the number of the prefecture's plow oxen. Particularly heartening is that the building of collective economically diversified bases continues. Last year 200,000 mu of moso bamboo was restored throughout the prefecture. This was 2.8 times the originally planned 70,000 mu. The newly developed more than 40,000 mu mountain tea growing area also achieved the plan figure that had been set. In rural villages, an extremely small number of peasants thought of "liberalization" for a time, but repented very quickly after indoctrination.

Still another matter is procurement of agricultural products, which increased once we diligently turned our attention to it. By 23 December 1981, the prefecture had fulfilled its grain requisition purchase tasks, and throughout the prefecture appeared numerous households that sold more than 10,000 jin of grain. In Jianning County, after Li Guangdong's [2621 1684 2639] household had sold 40,000 jin of grain to the state, a tremendous upsurge of competition in contributions took place throughout the county, and households in the county that sold more than 10,000 jin of grain numbered 740. Formerly our prefecture's performance in the sale of live hogs was fairly poor, but once attention was directed to this following the autumn harvest, during the 2 months of November and December the state bought more than 50,000 head, which was 40 percent of the entire year's quota. Most counties including Jiangle, Taining, Mingqi, Jianning, and Ninghua overfulfilled their quotas. Throughout the prefecture, many individual peasant households sold the state three or more pigs.

(2)

It is necessary to boldly and assuredly propagandize the principle that for peasants to become rich, there can be no departure from socialism.

How can propagandizing the "four perseverances," "concern for the three" [the country, the collective and individuals], and the "two oppositions" be made easily understandable, vivid and concrete, achieve the purpose of stirring the minds of the peasants, and form social opinion? Throughout our prefecture, results obtained have been good from leadership comrades taking the lead in propadizing, who have used the methods of linking the propaganda to local realities and working along several lines at the same time. In concentrating experiences from everywhere, most important has been taking into account the following three matters: One is to take account of state support for agriculture. First the accounting for the prefecture and counties must be layed out. Since the Third Plenary Session of the 11th Party Central Committee in the 3-year period between 1979 and 1981, our prefecture's local financial organization has allocated a total of 32.68 million yuan for the support of rural construction, an average of 109 yuan per peasant household, and this has been related to the situation in individual communes and brigades.

The second is to take into account subsidies made by the state. Subsidies made by the state during 1981 for major losses in the prefecture for nitrogenous fertilizer, phosphate fertilizer, threshers, and diesel fuel have amounted to 7.48 million yuan, an average of 24 yuan per household. In addition there have been subsidies for rural electricity, rural salt, and rural pesticides. In propagandizing at individual places, talk was even more concrete on how the phosphate fertilizer brought in by the government cost between 160 and 170 yuan per ton, but was sold to the peasants for only 140 yuan; how each threshing machine cost 83 yuan, but was sold to peasants for somewhat more than 40 yuan, and how each ton of diesel fuel cost 310 yuan, but was sold to the peasants for 195 yuan, etc.

The third matter is to take into account the reduction in prices of industrial goods and the increase in price of agricultural products. In addition to figuring the total bill, it was demonstrated that as a result of increases in prices paid for agricultural products, the peasants in the prefecture had increased earnings of more than 50 million yuan last year as compared with 1978. Even more instructive was to proceed from local realities using representative commodities to make a comparative accounting.

(3)

It is necessary to strengthen grassroots organizations and ro rely on them to steadily imbue peasants with socialist ideology.

Implementation of all the party's programs and policies, fulfillment of various work tasks, and intensification of ideological and political work all require reliance on rural grassroots organizations. As a result of our prefecture's resistance to disasters to win bumper harvests last year, improvements in production responsibility systems, and fulfillment of various work tasks, the party cadre ranks at the grassroots levels of our prefecture have combat strength, but it must also be realized that the workstyle of a minority of party members and cadres is itself not proper. Numerous grassroots organizations are loose-knit and weak. How can rural grassroots organizations, including the party organization, political organizations, and mass groups be strengthened? The knowledge gained through experience by various places in our prefecture is as follows:

1. A popular saying goes: "One village looks at another; one household looks at another; but the masses look at the cadres." Use of the party's style to spur on the people's style is exactly what Central Committee leadership comrades have been talking about recently. For rural social practices to make a decisive turn for the better, the key lies in rectification of party style. Simultaneously with the launching of indoctrination in socialism and patriotism in rural villages, the Prefecture CCP Committee and each county (or municipal) CCP committee directed attention to several major economic cases to uncover problems involving violation of the law and confusion of discipline, which were handled strictly in accordance with party discipline and the laws of the land, with positively no leniency shown. Improper conduct of a routine nature on the part of rural commune members and grassroots level cadres was mostly corrected by those involved as a result of criticism and self-criticism as part of indoctrination.

2. Evil practices and noxious influences must be obliterated. Most recently, each county (or municipal) CCP committee and commune CCP committee selected key points and pilot projects to find out how to put a stop to use of cultivated land for the building of houses, the felling of trees and denudation of

forests, assembling for gambling, feudal superstition, opportunism and profiteering, and such evil influences and noxious practices. Experience in pilot projects shows that if the attitude of leaders is resolute, the masses are fully aroused, and a fair, reasonable and legal popular consensus is worked out on the basis of national policies and ordinances and the pooled wisdom of the masses, and if this is carried out impartially, people being treated equally and without discrimination, large problems that have endured for a long time can be solved.

3. Energetic commendation of the advanced. Most recently, the counties (or municipalities) of the prefecture have convened a series of agricultural front commendation meetings that have singled out for commendation a large number of production brigade and team leaders, good party branch secretaries, and such cadres from units large and small.

4. Equitable remuneration for grassroots cadres. At the Prefecture CCP Committee Rural Work Conference held last October, we established a system whereby production brigade cadres are to receive fixed allowances, rewards, and punishments. Following the autumn harvest, all counties (or municipalities) devoted much attention to implementation of this system. Statistics from the four counties of Jianning, Taining, Qingliu, and Ninghua show that annual allowances for production brigade mainstay cadres (largely party branch secretaries, production brigade chiefs, and for finance and grain, barefoot doctors and farm technicians) required a total of 810,000 yuan, which has been paid. At the same time production brigade groups were reorganized and systems of personal responsibility established. Now an overwhelming majority of production brigade groups have taken over the economic and administrative functions for which they are responsible.

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SPRING PLANTING REPORTEDLY OFF TO GOOD START

Lanzhou GANSU RIBAO in Chinese 20 Mar 82 p 1

[Article: "Spring Planting Begins in One Place After Another in Gansu. This Year's Preparations For Plowing Fairly Solid; Both Cadres and Masses Strive to Win Good Harvest"]

[Text] Now that the period of the excited insects has passed [approximately 5 March] spring planting has begun in one place after another in Gansu Province. From the banks of the Bailong Jiang to the basin of the Shule He, and from the central region to the western corridor of the Huang He, the spirit of the masses of cadres and commune members has been aroused. They have begun early and acted quickly, and farming has been done solidly and painstakingly in the area already planted.

Statistics from units concerned show an area of more than 41 million mu in the province planned for the sowing of grain this year, 12 million mu of which is overwintering crops, which are now greening up; and 15 million mu of which is the fall ripening grain growing area, which is now being plowed. Right now myriad households are in process of laboring hard to complete the planting of 14 million mu of spring-sown summer ripening grain crops. This year's spring sowing is characterized in the following several ways: 1. Intensified planning of planting. In most places, commune members and production teams have already signed responsibility contracts or are now in process of signing them. 2. Last winter and this spring, the province had rather scant rain or snow and drought occurred in some places. However, before spring planting began, everywhere plowing and harrowing was done quite well. In Gaolan County, for example, 200,000 mu of sandy fields have been gone over three times. In Yuzhong County, the soil in 920,000 mu of the 1 million mu of fields for which planting has been planned has been turned once or twice. In riverland and irrigated areas, attention has been given to both irrigation and leveling of the fields. Recently some rain and snow has fallen, so the soil moisture situation everywhere is suitable for spring sowing. As a result of the increase in domestic livestock and poultry, both quantity and quality of farmyard manure is better than it has been for many years. All levels of supply and marketing units have promptly hauled to the countryside more than 273,500 tons of chemical fertilizer, which substantially satisfied needs for spring plowing and production. 4. In advance of planting this year, the enthusiasm of the broad masses of peasants for exchange of superior varieties was very high. In Linxia Zhou, for example, in addition to transfers from areas of surplus to areas of shortage by commune members in mountain and flatland areas, within communes and brigades, and between one household and another, through which an exchange of more than 1.5 million jin of superior variety seeds was made, the zhou and county seed companies also brought in 500,000 jin of superior varieties of wheat, soybean, and corn seeds from Jilin and Shaanxi provinces, and from Lintao. All counties in the province also took active measures to help the masses make timely exchanges. 5. Before spring planting began, all jurisdictions dilligently took in hand the repair and maintenance of large and small farm implements. Acting in accordance with the various rural responsibility systems that have been instituted, agricultural banks and credit cooperatives at all levels went into communes and brigades so as not to lag behind the farming season to issue 85.26 million yuan in agricultural loans. This solved difficulties for some commune members in buying farm implements and having insufficient funds for other preparations for farming, and vigorously assisted spring plowing and production.

By way of fighting a good battle in this year's spring farming and to strive to make agricultural production better than last year, provincial organizations made early transfers of 180 cadres who were led by the directors of 18 departments and formed into 38 investigative work units for dispatch everywhere in the province to help the grassroots start work. All prefectures, counties, and communes also strengthened leadership of spring planting and production. In the course of spring planting, many agricultural technical cadres worked with the masses on plans for scientific farming.

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EFFORTS TO REMEDY SOME WATER CONSERVANCY PROBLEMS REVIEWED

Lanzhou GANSU RIBAO in Chinese 14 Mar 82 p 2

[Article by Yang Chongyi [2799 6850 0001]: "Heartening Achievements in Gansu's Water Conservancy Research Using Principally Applied Research Firmly Geared to Production"]

[Text] By firmly gearing to the needs of production and using most applied scientific research, Gansu Province water conservancy research has won heartening achievements. As of the end of the year, most prominent were the following: A concise zoning report was presented on the Huang He, the Chang Jiang, and internal waterways throughout the province; research on fluid control butterfly valves and corrosion-resistant and abrasion-resistant coatings for water pumps showed definite economic effectiveness; experiments had reached a certain stage of completion in the removal of turbidity from water stored in reservoirs, in preventing the heaving of water conduits, and with bitter water, some economic benefits having taken place. The ground water mainstay cadre observation network in the western part of the Huang He has been preliminarily built.

In the development of water conservancy endeavors, numerous real problems urgently in need of solution occurred to provide new topics for water conservancy research. Take the frost-upheaval of water conduits, for example. In the western corridor of the Huang He in Gansu Province, the climate is frigid and the soil freezes to a maximum depth of from 0.8 to 1.84 meters. Damage done through frost-upheaval to the brickwork beneath the irrigation conduits is substantial. Light damage has to be repaired annually, a great expenditure of manpower and material resources being necessary. Heavy damage impairs passage of water through the conduits, or the conduits have to be scrapped. In 1979 the provincial water conduit experimental research group to counter freezing began work on this problem, and after several years of on-site observations and experiments it won preliminary successes in mastering the mechanisms of frost-upheaval, of the relationship between frost-upheaval and the thickness of the cushioning layer, and of various forms of supporting brickwork and things to be on guard against. In its application to production, this saved the country funds, materials, and manpower.

Successful development of fluid control butterfly valves has been of crucial technical importance, both theoretically and from a practical standpoint, in solving problems with high life large volume flow, reverse pumping through long pipes by pumping stations, hydraulic boosting, and safe operation of crisis pumping stations for which the province conferred a citation third class for accomplishments in scientific research in 1980.

Experiments with removal of turbidity in reservoirs provided scientific experimental data for solving the province's problems in building reservoirs into which streams carrying large quantities of silt flow, and in the elimination of silt build-up. At the Dongxia Reservoir in Jingning County, where experimental research was conducted for 4 years, an accumulated total of more than 6 million cubic meters of silt was discharged from the reservoir, and more than 1.7 million cubic meters of ditch and reservoir capacity flushed out. This made possible a preliminary abundant sluicing from dwindling storage, no flooding of shorelands, and a balance between flushing and silting for many years to extend the life of the reservoir and achieve the objective of assuring irrigation while saving on construction investments.

The eight ground water observation tracts undertaken by the provincial Water Conservancy Department have begun to be built; a start has been made on dynamic analysis and resources appraisals; and the results of study of the three tracts at Wuwei, Xiaheqing, and Jinta have been applied to the zoning of water conservancy and readjustment of the distribution of pump wells begun locally to guide the build-up of production.

At the recently convened provincewide conference on water conservancy work, working from production realities in Gansu Province, water conservancy research workers layed out the research projects to be done. They resolutely mobilized all scientific and technical forces to strive, on the basis of realities in the building of production, to advance water conservancy research work in Gansu Province.

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AOLUO RAPESEED GROWING AREA ENLARGED

Lanzhou GANSU RIBAO in Chinese 16 Mar 82 p 1

[Article by Li Duanchong [7812 4551 1813]: "Linxia Hui Autonomous Zhou Continues to Extend Growing of Aoluo Rape. Area of Zhou Planted This Year Enlarged To More Than 10,000 Mu"]

[Text] The Linxia Hui Autonomous Zhou has taken action to continue increases in the growing of Aoluo rape. Plans call for an expansion to 30,000 mu of this year's Aoluo rape growing area. This amounts to about 30 percent of the area sown to oil-bearing crops, and a more than 12,000 mu expansion over last year.

Aoluo rape is characterized by high yields and a high oil content. At the end of 1978, the zhou seed company introduced 3,000 jin of Aoluo rape from Qinghai Province. After 3 consecutive years of experiments and demonstration planting at numerous sites in areas of different kinds, yield increases vastly greater than those from local varieties were obtained. Last year the area to which the cultivation of Aoluo rape was extended in the zhou amounted to more than 17,800 mu, which was 19 percent of the total area sown to oil-bearing crops, but output amounted to 32 percent of the total oil-bearing crop output. Last year oil-bearing crop yields per unit of area in the zhou increased by 12 jin over the bumper harvest year of 1980, and total output increased by 1.82 million jin.

After several years of experimental plantings, Aoluo rape has "found a home" in the Linxia area. This year plans call for an expansion to 30,000 mu of the Aoluo rape growing area in Linxia zhou. This will amount to about 30 percent of the total area sown to oil-bearing crops.

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INCREASED EARNINGS RESULTING FROM CHANGES IN CROP PATTERNS REPORTED

Lanzhou GANSU RIBAO in Chinese 28 Mar 82 p 2

[Article by Li Peiliang [2621 1014 0081], Secretary, Jianhu County CCP Committee, Jiangsu Province: "Production of Wealth to Bring About Prosperity Through Increased Grain Production"]

[Excerpts] How is it possible to steadily increase commune members' earnings while achieving steady increases in grain production? Lugou Commune in Jianhu County has answered this question. In 1981 this commune's earnings from industrial sideline occupations amounted to 8.6 percent of total earnings. This was eight percent lower than the average for the county as a whole, yet earnings distributions to commune members were the highest in the county, averaging 190 yuan per capita. What was the reason? In addition to improving soil fertility and perfecting the crop rotation system, they also readjusted the crop pattern for different varieties, expanding the wheat, glutinous rice and hybrid rice growing areas, thereby achieving increased output and increased earnings.

They realized as a result of experience that wheat will tolerate wetness to produce consistent yields, and that water-laced lowland areas lent themselves to increased growing of wheat. They, thereupon, expanded the wheat growing area while cutting back on the barley growing area. In the case of rice, they kept the hybrid rice growing area constant while expanding the glutinous rice growing area and continuing to grow conventional xian rice varieties. In 1981 the area planted to wheat was 60 percent of the area planted to wheat, barley and naked barley; hybrid rice accounted for 63 percent of the area planted to rice; and glutinous rice occupied 11 percent of the area planted to rice. They also mobilized commune members to grow wheat and glutinous rice on their private plots for self-sufficiency so that more of the wheat grown by the collective could be sold to the state. In that year alone, grain yields increased to 1,544 jin per unit of area, wheat and glutinous rice accounting for 52.4 percent of the total amount of grain sold, an amount almost double that of 1979.

The foregoing has discussed increases in output; now let us take a look at prices. In accordance with state procurement prices, wheat was purchased at 0.163 yuan per jin, which was 0.054 yuan higher than the price paid for barley. The price paid for procurement in excess of quota was 0.244 yuan, which was 0.081 yuan higher than for barley. The price paid for glutinous rice was 0.046 yuan per jin higher than for conventional xian rice, and the price paid for procurement in excess of quota was 0.08 yuan higher. When the two factors of output and price were taken together, this commune's 1981 earnings from the sale of grain increased by more than 180,000 yuan as compared with 1979, and average per capita income increased by 46 yuan. As the masses said, "A change in varieties, and income has grown by one-half."

In addition to the aforementioned increase in economic benefits, the equitable readjustment of the distribution of varieties was characterized in the following several ways:

First, it helped put in place state grain production plans. The masses desired greater material benefits, and equitable readjustment of the distribution of crop varieties made commune members realize that economic benefits derived from producing grain were in no way less than from the growing of economic crops such as cotton.

Second, it helped provide the state with commodity grain of good quality and high economic value. Wheat and glutinous rice are both commodities for which both state and popular demand is very great. When more of these commodities provided the state, the state can reduce imports of grain while at the same time satisfying the needs of the people's livelihood.

Third, both wheat and glutinous rice make fine raw materials for processing into foodstuffs. Greater production of these grains means development of the food processing industry to satisfy market demand and increase their economic value.

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IMPORTANCE OF STURDY SEEDLINGS FOR BUMPER RICE HARVESTS STRESSED

Lanzhou GANSU RIBAO in Chinese 28 May 82 p 2

[Article by Ou Weizhong [2962 4850 0022] and Tao Ruhan [7118 3067 3352]: "Three Ways to Grow Sturdy Early Rice Seedlings"]

[Text] The vernal equinox has passed and spring has returned to the good earth. Early rice has already been sown in China's southern regions, and in the farflung rice growing areas of the Chang Jiang basin and the southwest, preparatory work for the growing of early rice crop seedlings is feverishly underway. Rice is China's principal grain crop and it is the early rice crop from which paddy rice yields per unit of area are fairly high and total output greatest. Consequently, a good job of early rice production holds major significance for assuring a bumper grain harvest for the year as a whole.

"When the seedlings are good, the rice will stand in the fields for half a year." Winning a bumper harvest from early rice this year requires, first of all the growing of sturdy seedlings. Long experience in production and the results of a large number of experiments attest that given the same conditions of growth and care, sturdy seedlings will produce yields of from several tens of jin to more than 100 jin per mu more than weak seedlings; ripening will take place from 3 to 5 days earlier; and savings in seeds and production costs can be effected. A rough calculation based on a low increase in yield shows that when seedlings are sturdy, increases in paddy yields for the year as a whole may amount to between 10 and 20 billion jin, and a saving of between 4 and 5 billion jin of seeds effected. A look at problems existing in seedling growing work right now shows that in this year's growing of sturdy seedlings, heavy emphasis should be placed on the following three things:

First close attention should be given to sparse sowing. This is fundamental in growing sturdy seedlings. Devoting too little land to seedling fields and sowing too many seeds on it remains a fairly common tendency. It is recommended that all jurisdictions vigorously promote Zhejiang Province's experiences with "one expansion and two decreases" (namely, expansion of the seedling field area, reduction of quantity of seeds sown in seedling fields, and reduction of quantity of seeds used in open fields in this year's propagation of rice seedlings, assuring that individual seedlings have an appropriate nutrient area, and that individual plants and plant colonies develop harmoniously.

Second, sowing should be done at the right time. This is a key measure in the prevention of seedling rot in the early rice crop. The main cause of early rice crop seedling rot is unwarranted stress on early sowing and early transplanting in a blind seeking after "earliness on top of earliness" with results that are just the opposite of expectations. How can one be sure of the right time for sowing? Many years experience everywhere suggests that once temperatures begin to rise in an area and stabilize at above 12°C, large scale sowing of early rice should be done. When heat insultation methods are used for the growing of seedlings, the sowing period may be advanced by about 10 days. In order to achieve sowing on time without seedling rot, communes and brigades in which economic conditions are fairly good should vigorously promote use of plastic mulch seedling propagation and some seedling propagation in hothouses.

Third is vigorous promotion of "many seedlings for a coherent whole." In a race against the season, in recent years many places have resorted primarily to a single planting of seedlings. New experience with a matching of "many seedlings for a coherent whole" with several plantings of seedlings permits the transplanting of young, tender, but sturdy seedlings in early crop fields, the transplanting of medium age seedlings in intermediate crop fields, and the transplanting of old, sturdy seedlings in late crop fields. This method permits making the most of advantages of various seedling propagation methods for the propagation of sturdy seedlings of proper age to meet crop rotation and variety requirements.

A good job of seedling growing requires establishment and perfection of a specialized seedling growing corps and designation of people responsible for care of seedling fields. Where conditions permit, seedling growing contract systems and seedling supply contract systems may be promoted. In the case of units practicing responsibility systems assigning responsibilities to households or teams, it is recommended that agricultural technique promotion units improve guidance given them on seedling growing techniques.

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ACTIONS TAKEN TO BOOST HOG RAISING

Lanzhou GANSU RIBAO in Chinese 26 Mar 82 p 2

[Article by Gong Shifeng [7255 0013 6912] and Qiao Wangtang [0829 2489 1016]: "Reversal of Declining Trend in Live Hog Production. Qingyang Prefecture Takes Positive Action"]

[Text] The Qingyang Prefecture Commercial Bureau and Prefectural Food Company have taken possitive action to reverse the trend toward decline in live hog production throughout the prefecture.

As of the end of 1980, live hogs in inventory in Qingyang Prefecture numbered slightly more than 507,600, an all-time high. However, since the last half of 1981, a gradual decline has taken place in the number of live hogs in inventory in the prefecture. By the end of the year, the number had fallen to slightly more than 460,000 of which sows in inventory numbered only slightly more than 24,300, a number vastly lower than the sows in inventory at the end of 1980. The number of stud boars was also seriously inadequate. In order to reverse the trend toward decline of live hog in inventory, Qingyang Prefecture took the following several actions: First it devoted serious attention to an increase in the number of stud boars and sows to assure ample breeding stock. All commune members who raised boars and sows received a certain amount of fodder from the collective. Food units annually provided some cash subsidy for stud boars raised by commune members. Right now peasant households in communes and brigades in Heshui, Ning and Zhenyuan counties are in process of either actively buying or keeping stud boards and sows. Second, prefecture and county units concerned have done a good job of investigation, study, and forecasting work, promptly solving problems in live hog production, procurement, allocation, and transportation. During the busy season in live hog procurement, no depreciation of quality in order to drive down prices paid or covertly gyping the masses is permitted. Third was improvement of species and promotion of the breeding of fine breeds. Prefecture and county food companies worked hard in the operation of fine breed farms, gradually making fine breeds out of local sows and bringing in from elsewhere fine breeds of boars and hybridized meat hogs. Fourth was solution to the problem of coarse fodder processing for hogs raised by commune members. All the grinding equipment owned by food units were all turned to processing jobs for agriculture. Fifth, all county food procurement stations raised one to three stud boars to solve the commune members problems in breeding sows. Some procurement stations also raised sows, actively providing shoats to the masses. After these actions had been taken, the enthusiasm of the masses of commune members in the prefecture for hog raising rose once again.

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GUANGDONG

PROVINCEWIDE SPRING AFFORESTATION CAMPAIGN REPORTED

Guangzhou NANFANG RIBAO in Chinese 3 Mar 82 p 1

[Article: "Surge of Afforestation in Cities and Countryside Throughout the Province. Seize Opportunity Provided by Spring Rains for the Greening of the Good Earth of Southern Guangdong"]

[Text] The cities and countryside in Guangdong Province have set off an upsurge in spring afforestation. As of mid-February, the province had raised more than 12,000 mu of saplings, a 43 percent increase over the same period in 1981. The area afforested amounted to more than 220,000 mu, a 67 percent increase over the same period in 1981. More than 3.7 million trees were also planted in the "four besides" [beside streams, roads, houses and villages], a tremendous increase over the same period last year.

Since last winter, accompanying gradual implementation of "three fixeds" in the province's forestry has been very high enthusiasm everywhere for afforestation. Many communes and brigades have devoted close attention to planning of forestlands, to preparing to plant seedlings, to making preparations for plowing and sowing and preparing the land for forestry, and going into the mountains to do afforestation following the lunar new year. The province's advanced unit in forestry, Jiaotan Production Brigade in Tangxi Commune, Fengshun County, has more than doubled its overfulfillment of afforestation plans for the entire year, each person planting an average of somewhat more than 120 trees. In Longchuan County, 90,000-odd commune member households planted 18,000 mu of trees on privately retained mountains.

Since the Provincial People's Government established the Greening Committee, 10 prefectures (or municipalities) and half the counties in the province have established greening committees. Statistics show that 370,000 people in the province are currently involved in a general obligatory tree planting campaign, and have planted more than 3 million trees in the afforestation of somewhat more than 1,500 mu. In Huiyang Prefecture, which acted most rapidly, more than 2.86 million obligatory trees have been planted, and the prefecture's Longshan County has already fulfilled its obligatory tree planting task. In Shaoguan Prefecture too, a total of more than 50,000 cadres in government organizations, staff and workers of plants and mines, and residents of streets have also gone out to plant more than 286,000 trees. Prefecture CCP Committee leaders led more than 1,000 government organization cadres, staff and workers, each one planting two or three trees.

Forestry units everywhere have actively helped communes, brigades and government units solve the problem of growing the saplings needed for afforestation, and they have buttressed technical leadership. All the communes and tree farms in Longmen County set up seedling nurseries to ready a sufficient number of saplings for spring afforestation. In addition to promptly supplying seedlings to each commune and brigade, forestry units in Yangshan and Shixing counties have organized forestry cadres and technicians to go to mountain region communes and brigades to help them do a good job of planning afforestation, to improve on-site technical guidance for afforestation, and to assure quality of afforestation.

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TWO HYBRID RICE VARIETIES PROPOSED FOR CENTRAL, EASTERN GUANGDONG

Guangzhou NANFANG RIBAO in Chinese 25 Feb 82 p 2

[Article by Li Shanfa [2621 0810 4099], Provincial Department of Agriculture: "Prospects for Development of Hybrid Rice in Province's Central and Eastern Prefectures"]

[Text] Since the beginning of experimental planting of hybrid rice in Guangdong in 1975 until 1978, the growing of hybrid rice has spread over an area of 2,854,000 mu. In 1979, the area declined to slightly more than 1.8 million mu; in 1980 it again exceeded 2 million mu, and in 1981, it broke the 5 million mu mark. Despite last year's substantial development, growing was concentrated largely in Shaoguan and Zhanjiang prefectures, while very little was grown in the central and eastern prefectures. Can wide area growing of hybrid rice be promoted in these prefectures, particularly in the Pearl River Delta and on the Chaozhou-Shantou Plain? This is an important topic meriting study. It was for this purpose that I did some investigation and study combined with analysis of results of experiments during the past several years. I believe that all that is needed is selection for use of fine hybrid combinations plus the use of commensurate cultivation techniques and hybrid rice will spread fairly rapidly in the central and eastern prefectures.

The hybrid rice combinations selected for use in Guangdong Province between 1976 and 1978 were mostly "Nanyou" and "Aiyou." These combinations possess definite heteroses, but their resistance is low, and their yields are high but inconsistent. After summarizing the lessons of experience, the province virtually eliminated "Nanyou" and "Aiyou" beginning in 1979, switching to "Shanyou No 2," "Weiyou Nos 3 and 6" and Shanyou No 6." Year by year the growing area increased, and results in increased yields were outstanding. For example, at Lianshan Commune in Zhenghai County on the Chaozhou-Shantou Plain, where "Shanyou No 2" has been promoted ever since 1977, by 1981 its growing area had expanded from 1,300 mu to 7,100 mu, and yields rose from an average 866 jin per mu to 1,057 jin per mu, an increase of 86 to 190 jin per mu over conventional varieties. In 1980 and 1981, the early crop created high production records of 1,515.4 and 1,620.6 jin per mu respectively. Last year, Buxin Brigade, Huangjiang Commune, in Dongguan County planted 75 mu of "Shanyou No 6" as a late crop, harvesting yields averaging 859 jin per mu, a 302 jin per mu increase over yields from the local conventional sitting autumn variety, Guang'er 104.

For both "Shanyou No 2" and "Shanyou No 6," plant height ranges from 85 to 95 millimeters; tillering is moderate to strong, color is good during the late stage of ripening; branches are green and stems waxy; each panicle produces between 120 and 130 grains; and the fruiting rate is between 78 and 80 percent. Grown as an early crop, the total growing period for "Shanyou No 2" is about 135 days. Grown as a late crop, "Shanyou No 6" requires about 115 days. Their main characteristics are as follows: (1) Possessing fine bumper harvest properties; plants grow vigorously; tillering is early and rapid; and chlorophyll content of leaves is high. (2) Resistances are high, and disease and insect pest infestations are fairly light. "Shanyou No 2" is a combination with high resistance to rice blast and bacterial blight; it is also resistant to leafhoppers. In addition, it is rather strongly adaptable to temperature and light. For "Shanyou No 6," when weather is overcast and chilly, not favoring flowering, spikelets delay flowering, their restraint lasting 1 or 2 days. (3) Adaptability is broad. They may be grown as both early and late crops on coastal plains, in hills and in mountain areas, or in sandy, clayey or black muddy soils, and they have fairly high potential. (4) They help in the accentuation of strengths and the playing down of weaknesses to make the most of advantages. According to briefings, after the "Shanyous" have been transplanted, tillering occurs between 22° and 29°C (centigrade used throughout), a direct proportional relationship existing between speed of tillering and temperatures. For the early crop, temperatures in central and eastern prefectures between Qingming [around 5 April] and the Grain Rains [around 20 April] are between 21.7 and 25.5°. For the late crop, around the time of Autumn Begins [around 7 August], temperatures are between 27.8 and 28.4°. Therefore, either as an early or a late crop, most places have suitable temperature conditions for tillering.

The "cold dew wind" is the most damaging kind of weather for the late crop, and it poses a great threat to late crop output. According to meteorological data for the central and eastern prefectures, for an 80 percent rate of assurance the period of full heading should come before 5 October. So long as we arrange for the full heading period to be before 30 September, consistently high yields can be harvested a substantial amount of the time. Additionally, during the late stages of the late crop, night and day temperature variations are great, which is very beneficial for coming into milk, for fruiting and for increasing rice grain weight. Therefore, so long as the central and eastern areas properly arrange the combinations, using "Shanyou No 2" for the early crop, planting it in late February for heading and flowering in mid-June, full use can be made of light and temperature conditions at the time to avoid the cloudy and overcast days of the "dragon boat rains" [of June]. For the late crop, "Shanyou No 6" should be used, sowing done during the first 10 days of July for transplanting at the end of July or early August, and full heading taking place in mid-September to completely avoid the "cold dew winds." This will play a very great role in changing the situation of low and inconsistent yields from the late crop.

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MAJOR IMPROVEMENTS IN FARMLANDS REPORTEDLY UNDERWAY

Guangzhou NANFANG RIBAO in Chinese 25 Feb 82 p 1

[Article: "Guangdong Province's Mountain Region Communes Start an Upsurge in Restructuring of Low Yield Fields. Increase Grain Yields Per Unit of Area and Develop Mountain Region Economy"]

[Text] Last winter and this spring, more than 450 communes in Guangdong Province have set off an upsurge in agricultural capital construction centering around the restructuring of low yield fields. According to most recent statistics, 570,000 mu of low yield fields have already been restructured, with the movement of 8.33 million cubic meters of earth and stone.

Since 1979, rural villages everywhere in the province have comprehensively tackled water, soil and fertility in the restructuring of more than 2.8 million mu of low yield fields. This plus other scientific farming measures has brought about tremendous increases in grain production from these fields. Yields per mu per year have thereby increases almost 100 jin at the minimum and between 200 and 300 jin at the maximum. Now the focus of restructuring of low yield fields has shifted away from the plains and hilly areas to mountain regions where it is being carried out on the basis of universal practice of responsibility systems whereby responsibilities are assigned on a large scale. Consequently all levels of party CCP committees have strengthened leadership for this work, and have concentrated financial and material resources on the restructuring of low yield fields in key communes and brigades. They have also sent large groups of cadres to help out in the countryside, thereby turning the restructuring of low yield fields into a conscious mass movement. In Meixian Prefecture, key communes for the restructuring of low yield fields generally have from five to seven cadres specially in charge of this work. Zhaoqing Prefecture sent more than 600 commune cadres and more than 400 agricultural science personnel to give on-the-ground technical guidance.

While restructuring low yield fields, all jurisdictions devoted attention to the adaptation of general methods to local situations, to comprehensively tackling problems, to doing tailored restructuring, both paying attention to changes in low yield field production conditions and paying attention to a combination of harnessing mountains and slopes to improve the ecological environment, assuring project quality, and improving economic benefits. At the same time all jurisdictions were sure to follow the principle of acting in accordance with capabilities, doing everything within their power, "the people acting with public support" and following a policy of voluntary participation and mutual benefit to arouse mass enthusiasm for restructuring of low yield fields. Since last winter, funds provided by communes and brigades throughout the province have totaled more than 12.6 million yuan, or 53 percent of project expenses. Foshan Prefecture allocated 3.45 million yuan of local public funds to support peasant restructuring of low yield fields. Subsequently, each county in the prefecture disbursed 1.08 million yuan of local public funds for restructuring of low yield fields. These allocations, plus 3.87 million provided by communes and brigades themselves, have meant fairly good solution of need for funds to restructure low yield fields.

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FOSHAN PREFECTURE EMPLOYS ADMINISTRATIVE, TECHNICAL MEANS TO INCREASE OUTPUT

Guangzhou NANFANG RIBAO in Chinese 18 Feb 82 p 1

[Article by Reporter Tao Guangyuan [7118 0342 0337] and Correspondent Mian Hao [0517 3185]: "Foshan Prefecture CCP Committee Adopts Five Measures to Do a Good Job of Grain Production. Stabilizes Existing Grain Area and Actively Develops Economic Diversification"]

[Text] At a recently convened meeting of county and municipal CCP committee secretaries, comrades in charge of the Foshan Prefecture CCP Committee noted that, "It is currently necessary to strengthen national concepts, overall situation concepts and planning concepts, carry out an all-around production program of 'positively no slackening of grain production while actively launching economic diversification,' and adopting energetic measures to do a good job of spring farming and production."

Since the 3rd Plenary Session [of the 11th Party Central Committee], uncer the guidance of the state plan, Foshan Prefecture has adapted general methods to local situations in the readjustment of its agricultural production patterns, and has changed the former rather unitary economic structure for substantial development of economic diversification and of commune and brigade industrial sideline occupations. The Prefecture CCP Committee believes that the past several years' readjustment of the prefecture's agricultural production patterns has been very necessary, that steps have been measured and results outstanding. A look at the present situation shows the broad masses giving extraordinary attention to development of the livestock industry, the fishing industry, to cane sugar, oil-bearing crops, fruit production, commune and brigade enterprises, and household sideline occupations. Such enthusiasm is very precious and should be given support and protection as well as practical guidance and help. However, among some cadres and the masses an actual tendency to ignore grain production exists. Zeal for development of economic crops and engaging in industrial sideline occupations is great, while zeal for grain production is not as great. Some even care nothing for state plans, taking it upon themselves to make major reductions in the grain growing area in a change to the growing of other crops. In order to assure fulfillment of grain and other production tasks handed down by the state this year, timely ideological education of the broad masses of cadres and people must be carried out to help them firmly establish a national concept, an overall situation concept, and a plan concept and to consciously take grain production firmly in hand. For this purpose, the Prefecture CCP Committee proposed attention to the following several measures:

1. Wide publicity to the carrying out of ideological arousal, with much playing up of the importance of grain production. Everyone should come to understand that Foshan Prefecture is a major commodity grain base in the province, and that providing the state with sufficient commodity grain is a duty to which we should bend every effort, and that this is also necessary for stabilization of the overall situation. We should not only calculate that the price paid for growing grain is not as high as for other crops, or that income from the investment of labor in grain production is not as great as from doing industrial sideline work; rather we should conscientiously calculate that only by doing a good job of grain production is it possible to develop industrial sideline occupations without nagging worries about food, and only then is it possible to have larger amounts of livestock feed for development of a collective and household livestock raising industry, and a breeding industry, and only then can the already readjusted agricultural production pattern be placed in an invincible position. Additionally, cadres and the masses should be made to understand that China today is still not prepared entirely to use prices to regulate production conditions. Producers in our socialist country cannot rely solely on laws of value to engage in production. Were each trade and industry to function according to amount paid, the state plan would be thrown into turmoil to the serious impairment of our production and our lives. Therefore, all places that lend themselves to the growing of grain must take cognizance of the overall situation, care about the general interest, and grow grain crops in accordance with state plans.

2. Strengthening of plan guidance and stabilization of existing grain growing area. There is need for active promotion of economic contracts and the use of economic contracts and such methods to dovetail state plans with collective and individual commune member production activities, so that state plans will be implemented in every production unit. The paddy rice growing area throughout the prefecture must be stabilized at between 4.4 million and 4.5 million mu so that a fairly reliable foundation will exist for increase in the prefecture's total grain output.

3. Use of various kinds of economic methods to arouse peasant enthusiasm for grain production. Preparations for farming and spring farming must both be combined with further advances and improvements in various forms of production responsibility systems, the peasants thereby deriving material benefits from the contracting of grain production. There must be further promotion everywhere of the use of the methods of using industrial sideline occupation profits to subsidize agriculture, and use of economic crops profits to subsidize grain production to stimulate grain production.

4. Widespread promotion of hybrid rice, use of mixed nitrogenous, phosphate and potash fertilizers and such advanced agricultural techniques in an effort to increase yields per unit of area. Energetic advocacy of the agricultural science

and technology contracts system promoted in Guizhou Commune, Shunde County, and the popularization of agricultural science and technology so that agricultural research results will be rapidly transformed into productivity. Advocacy that all levels of leadership go down into the grassroots to launch scientific experiments and to arouse youths, militia and women to large-scale cultivation of experimental fields and high yield fields.

5. Mobilization of all trades and industries to assist agriculture and support grain production.

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RUBBER DEVELOPMENT, OUTPUT REVIEWED

Guangzhou NANFANG RIBAO in Chinese 17 Feb 82 p 1

[Article: "Substantial Development of Commune and Brigade Rubber in the Province. Last Year's Output of 8,000 Tons of Dry Rubber, Plus State Farm Output Brought Province's Total Output to More than 100,000 Tons"]

[Text] Substantial development has taken place in the growing of rubber by the province's communes and brigades. The province's commune and brigade rubber growing area now stands at 1 million mu, with slashing being done on 270,000 mu. In 1981, dry rubber output was 8,000 tons, more than doubling the 1976 output. This plus state farm output meant that the province's total output of dry rubber broke the 100,000 ton mark in a year that saw unprecedented development of rubber.

In some communes and brigades along the seacoast of continental Guangdong and on Hainan Island, the climate is mild and rains copious, suiting them to the development of rubber production. As a result of the former influence of "leftist" ideology, production teams were permitted to grow grain only, and were not allowed to develop rubber. As of 1976, the province's commune and brigade rubber output was still less than 4,000 tons. Following the 3rd Plenary Session of the 11th Party Central Committee, while doing a good job of grain production, numerous communes and brigades allocated workforces and put out the funds for development of rubber production. On Hainan Island, most communes in every county grow rubber. Along the continental seacoast, some communes and brigades have also cultivated new rubber varieties that stand up to the wind, tolerate coldness and are suitable for growing locally, and have started up rubber plantations. Today communes and brigades in 38 counties grow rubber.

Everywhere state farms have actively assisted communes and brigades in the development of rubber production. This has both solved commune and brigade difficulties with insufficient funds, and has solved a conflict in production between the state farms and communes, both state farm and commune and brigade rubber production achieving common development thereby. As a result of the development of rubber production and of other economic diversification endeavors, many rural communes and brigades have changed their unitary economic structure, have strengthened the collective economy, and commune member distributions have become increasingly high.

Shiwu Production Brigade on Hainan Island grows somewhat more than 5,680 mu of rubber, producing more than 200 tons of dry rubber annually for earnings of more than 1.1 million yuan. Its earnings from rubber account for 72 percent of the brigade's gross income. During the past several years they have produced 1,900 tons of dry rubber for the country, paying 240,000 yuan in rubber revenues. In addition, the brigade has accumulated more than 5 million yuan of public accumulation funds and public welfare funds.

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GUANGDONG

BRIEFS

RURAL SAVINGS UP--Rural savings deposits in Guangdong Province this year continued to demonstrate a tendency toward tremendous increases. As of the end of January, rural savings deposits in the province totaled more than 2.76 billion yuan, which averages out to savings deposits of 57.40 yuan per capita of the agricultural population. In January of this year alone, savings deposits increased at an average 5.20 yuan per capita. This shows that the province's rural economy is booming, and that the living standards of the broad masses of peasants are steadily rising. [Text] [Guangzhou NANFANG RIBAO in Chinese 19 Feb 82 p 1] 9432

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DEVELOPMENT OF FORESTRY SAID STRATEGIC STEP TO BUILD UP FLATLAND

Shijiazhuang HEBEI RIBAO in Chinese 5 Feb 82 p 2

[Article by Zheng Zhaoxiang [6774 0340 4381], Jiao Zhigeng [3542 1807 5087], and Cao Peng [2580 7720]: "Developing Forestry Is a Strategic Measure To Build Up the Flatland"]

[Text] Readjusting the policy of economic buildup must be based on the period required to realize economic gain so that visible economic results can be achieved within a relatively short period. At the same time, we must start out from long-range ecological effects in our efforts to restore the natural ecological environment which has been destroyed and we must put efforts to further cultivate and protect resources in first place. Therefore, planting trees and forestation in a big way and developing forestry production are strategic measures to build up the flatlands.

Zhangbei County in the flatlands had little forest land at the beginning of the founding of the nation, but vegetation of the meadows was good. In 1949, 2.87 million mu of grassland were recorded and permanent vegetation constituted 57 percent. The coverage of vegetation was good and the ecological environment was stable. After the arrival of the 1960's, massive reclamation and planting destroyed the vegetation and caused environmental factors to change. One was the frequent damage by wind and sand. Comparison of the 1950's and the 1970's shows that the annual average wind speed increased 0.8 meter/second. The average number of days of strong wind increased 36.8 days. The number of days of sandstorms increased by 3.4 days. The area of wind erosion throughout the county covered about 610,000 mu. From April to May of 1972, strong winds about 7 on the scale blew for 27 days. Farm crops of more than 500,000 mu throughout the county were damaged and 150,000 mu of land were forced into destruction. The second was the worsening of drought. During the 25 years from 1956 to 1980, drought occurred in 21 years and major drought occurred in 2 years, indeed 9 years of drought out of every 10. The third was soil erosion. Because the slopes were overly reclaimed, the area of soil erosion throughout the county has already reached more than 2.2 million mu. Each year, more than 960,000 mu of soil are eroded. Especially in recent years, floods due to a rush of mountain water have gradually increased. In 1979, 119,000 mu of farmland of 94 brigades belonging to 10 communes in the mountain areas were covered by sand washed away by water. Detrimental changes due to ecological imbalance cannot be remedied by man. Facts show that adjusting the internal structure of agriculture must start from restoring and retaining the ecological balance and from planting trees and forestation in a big way.

Forestry production is an important component of the natural economy of the flatland. Since founding of the nation, the area preserved by artificial forestation in Zhangbei County has reached 615,900 mu. Even though the present level of forestation is relatively low, the total reserve of forests has reached 183,000 cubic meters. Each person has half a cubic meter of forest wood throughout the county. Analytic calculations of tree trunks show that each year, the growth rate of the reserves of forest wood is over 20,000 cubic meters and the value of natural growth is about 4 million yuan.

In addition, there is an extreme shortage of energy for living in the farm villages on the flatland, and firewood is still a difficult and lingering problem. For example, many farm families in the farm villages of Zhangbei County basically rely on stalks of crops and manure of cattle and horses. At present, this county has forested more than 60,000 mu. According to plans, by 1985, each family will have an average of 3 mu of firewood forest land and the problem of firewood for farmers will be basically solved.

To quickly restore the ecological balance in the flatlands, forestry production must be rationally distributed. The foremost purpose of foresting the flatland should be the protection of gain, and the pursuance of economic gain should be second. Accordingly, in the distribution of forestry production, the retention of soil should be the main effort in the mountain regions and breaking the wind should be the main effort in the plan. In the plains, forestation of the river systems should be developed in a big way. Land of the "four sides" should be planted well. The gaps should be filled so that a whole system of effective protection that is connected by expanses, networks and strips can be formed within a short period. In the mountain regions and hilly regions, forests that retain water and soil should be greatly developed. The area of coverage should be actively increased. Damage to mountain areas and after-effects detrimental to the plains should be overcome.

9296
CSO: 4007/245

STABILIZATION OF GRAINFIELD AREAS SOUGHT

Shijiazhuang HEBEI RIBAO in Chinese 6 Apr 82 p 1

[Article: "Take Action to Stabilize Grainfield Area to Assure Increased Grain Output. Provincial Government Approves and Sends to Provincial Bureau of Agriculture 'Report on Stabilization of Grainfield Areas to Assure Increased Grain Output,' Requiring all Prefectures, Municipalities, and Counties to Take Each of the Actions Contained in the Report"]

[Text] Recently the Provincial People's Government approved and passed on to the Provincial Bureau of Agriculture the "Report on Stabilization of Grainfield Areas to Assure Increased Grain Output," which requires all prefectures, municipalities, and counties, on the basis of local situations, to diligently study and conscientiously carry out the various actions contained in the report for assuring this year's grainfield area and increases in grain production.

A provincial government memorandum requires each jurisdiction to diligently put into effect a program of "positively no relaxation of grain production while actively launching economic diversification," and "taking the planned economy as primary and regulation by market mechanism as secondary" in all-around fulfillment of this year's planting plans for grain, cotton, oil-bearing crops, and other economic crops. The growing area for grain grows is to be stabilized and main attacks directed against yields per unit of area to assure fulfillment of plans for a grain output totaling 33 billion jin. Right now it is necessary to give attention to "one resistance and double guarantees," first of all winning a fine summer harvest while at the same time doing a good job of spring sowing to win another all-time high in autumn grain output.

The Provincial Bureau of Agriculture report said that since the Third Plenary Session [of the 11th Party Central Committee], all of the province's jurisdictions have diligently carried out a program of "positively no relaxation in grain production while actively launching economic diversification." They have gradually readjusted agricultural crop patterns and have continued to reap rather good harvests despite the unfavorable conditions of 3 consecutive years of drought. A comparison of 1981 with 1978 shows a downward readjustment of the grain growing area from 76.6 million mu to 73.5 million mu, a decrease of somewhat more than 3 million mu. However, total output has continued at 31.5 billion jin. The year 1981 was the third all-time high year, only the great bumper harvest years of 1978 and 1979 being better. From a cottonfield area of 8 million mu, output totaled 450 million jin, a 92 percent increase. Ginned cotton yields averaged 56 jin per mu, making 1981 the fourth highest year for production. The oil-bearing crop area was increased to 7.42 million mu, an expansion of 2.9 million mu. Output totaled 928 million jin, an 89 percent increase for an all-time high. Other economic crops and economic diversification showed varying degrees of increase. This year, in accordance with the principle of "adaptation of general methods to local situation to make the most of advantages," plans call for expansion of the province's cottonfields to 11 million mu, a 3 million mu increase over last year. Smaller increases are also planned for other economic crops. Calculations on the basis of the agricultural production plan handed down by the province show an additional somewhat more than 70 million mu as the province's grainfield area. This plan is a suitable one and is to be guaranteed fulfillment.

The notice pointed out that a problem currently deserving of attention is that in some places a tendency toward paying no attention to state plans, blindingly expanding the growing of economic crops, and reducing the grainfield area has appeared. This year all jurisdictions have reported assignment to production teams of an area of 11.23 million mu for the growing of cotton in the province. Jurisdictions have reported the growing of 7.62 million mu of oil-bearing crops when plans call for the growing of 7.45 million mu. The actual acreages are even larger. In some counties, communes, and brigades, the area planted to economic crops such as cotton and oil-bearing crops exceeds by 20 to 30 percent plans handed down by the state. As a result of their growing of diverse economic crops, some places want to rely on the state to bring in grain from elsewhere, and some plan on increasing their earnings through development of economic crops and buy grain in markets. Such thinking is wrong and dangerous; it can cause hardships for the country and the people. Ours is a large province with a population of more than 50 million, which has to be self-sufficient in grain. The province's circumstances require that in order to assure consistent increases in total grain output, it is necessary both to increase yields per unit of area and to maintain a certain grainfield acreage. This year's plan calls for a grainfield area for the province that is 6 million-odd mu less than in 1979. If the economic crop growing area is blindly expanded further, the province's 70 million mu of grainfields cannot be guaranteed. All levels of leadership should arouse a high degree of serious attention to this problem and stabilize the grainfield area above 70 million mu to assure increases in grain output.

In order to realize a planned total output of 33 billion jin of grain for the province this year, the report requires that all jurisdictions should proceed from a foundation of perfecting production systems of responsibility and arousal of mass enthusiasm to give diligent attention to the following points:

1. Diligent implementation of a program of "positively no slackening of grain production while launching economic diversification," and "taking the planned economy as primary and regulation by market mechanism as secondary" to intensify planting in accordance with state plan, arranging at the same time for grain crops and economic crops. This year the grainfield area for the province as a whole cannot be less than 70 million mu. The cottonfield area is to be 11 million mu, and the oil-bearing crop area is to be 7.45 million mu, and planting

should be done according to plan in sufficient quantity and quality. Every effort should be made to use idle land for the growing of some non-staple economic crops. All jurisdictions are to centrally program the area to be sown to grain, cotton, oil-bearing crops, and other economic crops in accordance with state plans that have been handed down. The broad masses of cadres and people are to be indoctrinated in establishment of plan concepts and concepts of the situation as a whole, taking into consideration the welfare of the country, the collective, and individuals. Guided by the state plan, there should be an equitable distribution of grain crops and economic crops, one advancing the other in coordinated development to gain better economic benefits.

2. Diligent implementation of the assignment of sole responsibility for state grain tasks, the signing of economic contracts being taken firmly in hand. Beginning this year, Hebei Province will use the method of assumption of sole responsibility for grain requisition procurement, sales, allocation and transportation, so all jurisdictions are to use the signing of economic agreements as a means of implementing level by level the assumption of sole responsibility for grain quotas. So long as fulfillment of sole responsibility grain quotas can be assured, equitable provisions for this year's planting plans can be made that both guarantee fulfillment of state plans, respect production team self-determination, and bring more into play the enthusiasm for production of the broad masses of commune members.

3. Simultaneous with the stabilization of growing areas, efforts are to be made to increase yields per unit of area. It is necessary, first of all, to win a good summer harvest. All jurisdictions are to strengthen leadership and launch a principal attack on yields per unit of area in an effort to achieve a summer grain output that matches or exceeds last year's. In addition, attention is to be directed to combat drought to do spring planting to assure autumn grain production. Arrangements for autumn grain crops should help increase yields per unit of area and increase total output. Hill drylands should grow more millet and sweet potatoes, and low-lying areas should grow more gaoliang. Corn output accounts for half the fall grain. Except for places not suitable for the growing of corn, there should be no excessive reduction in corn acreage. Every effort should be made to encourage the intercropping of pulses with corn and gaoliang. Ability to stand up against disasters and assure outputs can be increased through equitable crop patterns. The masses should be stirred to make full use of idle land to try to grow more grain. All jurisdictions should focus on "one resistance and double assurances" to do a good job of technical promotion work. They should organize large groups of technical personnel to go down to the grassroots to help improve work and gain firsthand experience, actively sign technical promotion contracts linked to output, and begin technical teaching in order to raise the scientific farming levels of the broad masses and promote increased output of grain this year.

9431
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NEED TO GUARD GRAINFIELDS FROM FURTHER ACREAGE REDUCTIONS STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 2 Apr 82 p 2

[Article by Lu Shuangcai [6424 7175 2008] and Yang Zingfa [2799 5281 4009]: "Hebei Province's Grain Acreage Should Be Stabilized"]

[Text] In the process of readjusting agricultural crop patterns since the Third Plenary Session [of the 11th Party Central Committee], Hebei Province has corrected the mistaken past method of "taking grain as the key link and cutting everything bare," crop patterns for grain cotton, edible-oil and other economic crops tending toward equitability. A problem that merits attention now is the tendency toward great decline in the grainfield area. This problem must arouse a high degree of serious attention on the part of leaders at all levels to take effective action to stabilize the grainfield area in Hebei Province.

As a result of the institution of various forms of production responsibility systems during the past 2 years, the enthusiasm for production of commune members has been aroused, and the grain situation in Hebei Province has taken a turn for the better. But life is still hard. The province has a population of more than 50 million, so getting enough to eat is a matter of primary importance. Since the founding of the People's Republic, grain production has seen fairly great development; however, it is still far from ample. During the 29-year period between 1953 and 1981, only 4 years produced a grain surplus; in the other 25 years there was shortage during which more than 27.6 billion jin of state-transported grain was consumed. Looked at in terms of average amount per capita, in 1979 each person had 619 jin of grain, an all-time high; yet this was lower by 69 jin than the national average. During the last 2 years, average per capita grain consumption has not increased. In 1980, it was slightly more than 500 jin; in 1981, it was 605 jin. At the same time, the province's production has not been consistent. In bumper years, the situation is a little better, but a lean year means reduced grain output, and use of grain by everyone becomes a little tighter. Consequently, it is absolutely impossible to relax grain production.

Quite a few comrades suppose that once the grain field acreage has been reduced, total output can be assured by increasing yields per unit of area. We acknowledge that this method can solve some problems and that the future orientation has to be a concerted attack on per unit yields. However, under present conditions, a sudden very great increase in yields per unit of area is also not realistic. During the past several years, grain yields in Hebei Province have been in general somewhat more than 400 jin per mu. In 1978 and 1979 when yields per mu were highest, they were 440 jin and 474 jin respectively. This year's planned total grain output is 33 billion jin. Figuring a grainfield area of 70 million mu, that means yields per mu will have to reach somewhat more than 470 jin if the plan is to be realized. If the acreage is less than 70 million mu, then the yields per mu will have to be somewhat higher. In 1979 both the summer and the autumn harvest were bumper ones with high average yields per mu. This year's task of getting somewhat more than 470 jin per mu yields of grain will be an arduous one. That is because this year's wheat acreage is 4.6 million mu less than the previous one, and again there is protracted drought with no rain. Beginning this year, the Central Committee has instituted the assumption of sole responsibility by Hebei Province for grain allocations, guaranteed to remain unchanged for a 3-year period. Therefore, we must stabilize the grain acreage and use every available means to make a main attack on yields per unit of area in an effort to fulfill this year's increased grain production plan.

Readjustment of agricultural crop patterns will be limited by grain. Formerly the province onesidedly stressed taking grain as the key link to the detriment of economic crops. High yield poor brigades came into being, and in some places not only were grain crops elbowed aside, but no increase in grain output occurred either. In recent years, as a result of readjustment of agricultural crop patterns, the cotton acreage has increased from 1978's 8 million mu to this year's planned 11 million mu. The edible-oil growing area has increased from 4.5 million mu to 7 million mu, and the acreage for other economic crops has also increased. If the grainfield development of economic diversification occurs to the detriment of grain, and this will also create an imbalance in agricultural crop patterns. If total grain output declines, economic crops will not be able to go up either. Therefore, in readjusting agricultural crop patterns, it is certainly necessary to consider this premise, and it is necessary to be restricted by grain.

Ours is a socialist country in which the entire national economy is predominantly a planned economy, regulation by market mechanism being secondary. Agricultural production is no exception. Following the institution of various forms of production responsibility systems in agriculture, it continues to be a collective economy founded on the public ownership of the basic means of production such as land. In drawing up production plans, the guidance and restraints of state plans must be accepted. Therefore, when formulating planting plans implementation of state grain production plans must be assured as must the fulfillment of tasks in assumption of sole responsibility for requisition grain procurement. There can be no planting as one pleases. Only by assuring a certain grainfield acreage will it be possible to assure steady increase in total grain output, the entire national economy thereby having planned, proportional, and coordinated development.

9432
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PIG RAISING ON RISE IN SOME COUNTIES

Shen County

Shijiazhuang HEBEI RIBAO in Chinese 29 Jan 82 p 1

[Article by Duan Zhencang [3009 2182 5547], Kang Bingqiang [1660 3521 1730], Pang Fusen [1690 4395 2773]: "Grasping Well the Demonstration Families Led Thousand Families and Ten Thousand Families, the Number of Hogs Raised in Shen County Rose Month By Month"]

[Text] Shen County started out from the new situation after popular implementation of the production responsibility system in farm villages, carried out the method of grasping well the "demonstration families" to lead the broad masses and encouraged commune members to raise hogs.

After the broad number of farm villages in Shen County popularly implemented the various forms of the production responsibility system, and under the effect of past years when submitting hogs was difficult, the number of hogs raised by the collective production teams decline. Some commune member families paid more attention to family planting under the prerequisite of planting the fields they were responsible for well, and raising hogs by the families suffered to a definite degree. To solve these problems, the county committee, the county people's government and the livestock production department established "demonstration families" and assigned them to cadres according to districts. And beginning from last year, cadres were assigned the responsibility of overseeing such families to develop hog raising and to promote hog raising by the many families in the country. Hog raising by commune members thus developed again. The actual method was first to establish the 86 commune member families who raised and submitted more than 5 fattened hogs a year or who raised more than two head of sows a year as hog raising demonstration families. Over 40 technical cadres of the county livestock bureau and 35 commune veterinary stations took charge of these demonstration families separately and actively popularized scientific formulas for feed, prevented and controlled diseases in time, and truly guaranteed healthy growth of the hogs. This enabled the hog raising demonstration families of the whole county to exert a profound influence upon the masses and more than 10,000 commune member families began actively raising hogs again. The number of hogs in the whole county thus increased month after month. Statistics up to the end of last year showed that during the whole year, the number of hogs raised reached over 199,700 head, an average of 1.8 head per family and approaching the highest level in the past. More than 93,000 hogs were released from the pens, an increase of 2,024 head over the previous year. Up to the present, the whole county has more than 100,000 head of hogs in pens.

Zunhua County

Shijiazhuang HEBEI RIBAO in Chinese 4 Feb 82 p 1

[Article by Xu Fengci [1776 7685 3069], Ren Youdou [0117 2589 2435], Cui Haifang [1508 3189 2387], and Wang Shouben [3769 1343 2609]: "Adapting to the New Situation Created by the Production Responsibility System, Adjusting the Method of Reward for Raising Hogs, the Number of Hogs in Zunhua County Continues To Increase"]

[Text] The Zunhua County Committee conscientiously analyzed the reasons for the drop in the number of domesticated hogs and actively adjusted the method of rewards for raising hogs. These efforts have rapidly changed the decline in the number of hogs raised and have increased the number. At the end of last year, there were 280,000 hogs in pens throughout the county, and increase of 20,000 over the number at the end of 1980. Each family raised an average of 2.3 pigs.

At the beginning of last year, the county committee discovered that the number of hogs raised throughout the county dropped. The number of fattened hogs shipped out from the whole county dropped by 9 percent from the same period the year before last. Some localities suffered a drain of their breed hogs. The number of sows also declined by more than 500 from the middle of the previous year. They analyzed the causes of the decline in the number of hogs raised. One reason was the decline in the amount of feed rewarded to hog raising. In the past, for each hog raised by commune members, the state and the collective generally rewarded over 400 jin of feed. Now, some commune brigades only receive about 300 jin. This raised the cost of raising one hog by 3 to 5 yuan. The second reason was that the number of work points rewarded by the collective for hog raising and the number of work points rewarded for manure fertilizer declines. In the past, for each hog raised by commune members, they received about 1,000 work points a year. If we calculate on the basis of 5 jiao per work point, cancelling the work points would reduce the income per hog by about 50 yuan. According to surveys, after implementing the production responsibility system, 554 production teams of the more than 3,400 throughout the country received less work points for raising hogs and for providing manure fertilizer, and rewards of food grains for raising hogs were cancelled for 958 production teams. In this way, the cost of hog raising increased, income dropped and commune members could not benefit. The enthusiasm for hog raising suffered a serious setback. Aimed at this situation, the county committee conducted a special study of the problem of raising hogs, and issued the following rules concerning hog raising policies according to the different forms of the production responsibility system:

1. Production teams that implement unified management, distribution and contract work and production to teams or to individuals should generally award work points to hog raising families and work points to commune members

providing manure. Hogs weighing less than 40 jin should be awarded half a work point each. Hogs weighing more than 40 jin should be awarded one work point each. Each sow should be awarded three work points. For each hog that has been raised from the young to the time it is removed from the pen and the time when its manure accumulates to 7 to 8 cubic meters, about 70 work points should be awarded per cubic meter of manure. In awarding food grains for hog raising, 1 jin of food grains should be awarded for every 10 work points accumulated by a commune member raising hogs.

2. Production teams implrmenting the system of responsibility for food grain fields and economic crops should award one work point a day to any commune member who raises one hog weighing more than 20 jin and the manure submitted to the collective should be paid for according to quality. Feed grains for hog raising follows the general rule of "1 jin of feed per jin of weight per hog." The amount of feed grains which should be received for raising and fattening hogs determines the size of the plot of land for planting feed grains, and this plot is to be managed individually by the commune member.

3. Production teams that implement the system of contracting production to the families and contracting work to the families will not procure manure from hogs raised by commune members anymore. The commune members are only given feed grains for hog raising. There are two says: One is that the production team uniformly distributes food grains as subsidy according to the number of jin gained by the hogs raised by a family. The second is to determine the amount of feed grains according to the number of jin gained by the hogs, then, a plot of land whose size is appropriate for producing the amount of feed grains thus determined is assigned to the commune member. Generally, a feed plot of 1 fen 5 li is assigned for every head of hog raised from young to the time it is fattened. Two fen of feed plot are assigned for every sow. The plots are managed and used by the commune members themselves.

After establishing these rules, the amount of feed grains received by commune members for raising one hog in the county equals the amount received prior to implementation of the production responsibility system. The income of the hog raising family from the collective has not reduced. Commune members said: "This time, the hog raising policy is implemented anew, and there are more real benefits from raising hogs, so why should we not raise more hogs?" The enthusiasm of the broad number of commune members and masses in raising hogs has been mobilized, and the hog raising industry through the county has rapidly shown new development.

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CSO: 4007/245

HANDAN PREFECTURE PROMOTES SCIENCE, TECHNOLOGY IN AGRICULTURE

Shijiazhuang HEIBEI RIBAO in Chinese 3 Feb 82 p 1

[Article by Yang Zhijun [2799 1807 6511] and Li Rishan [2621 2480 1472]: "Popularize Science, Satisfy Farmers' Needs, Handan Prefecture Strengthens the Agency To Popularize Agricultural Techniques"]

[Text] After the Handan Prefecture implemented the agricultural production responsibility system in the farm villages, a new situation of learning science, loving science and using science emerged. The broad masses of farmers urgently want to learn scientific techniques and utilize scientific techniques to guide production, seize bumper harvests and become rich. The committee of the Handan Prefecture and the administrative office have decided to restore and make sound the science and technology agency in face of this new situation. Each city and county established a science committee and a science association and many special societies, and the agricultural and forestry departments of the prefecture, cities and counties established technical stations, plant protection stations, soil fertility stations, veterinary stations, seed companies and superior seed farms. Some counties also established county agricultural science institutes and science and technology centers. Throughout the prefecture, 391 communes established superior seed farms, and 1,341 brigades established small farms. The agricultural science and technology department at each level cooperated together and propagandized and popularized agricultural science and technology in broadcasts and lectures, by posting bulletins in farm villages, and at night schools for farmers. The technical cadres of many county communes signed joint technical contracts with production brigades, production teams and responsible families and work teams. At the same time, the whole prefecture also popularized demonstration farms for scientific planting and scientific raising of animals, and it popularized the experience of demonstration families. Visible results were realized. In 1980, the whole prefecture planted 590,000 mu of lumian No 1 cotton. In 1981, this expanded to 1.2 million mu. Hanza No 1 corn increased from 23,000 mu to 246,000 mu. Pingsanjiu wheat increased from 220,000 mu to over 600,000 mu. The technical and management level in the cultivation of major farm crops, in the prevention and control of cotton diseases and insect pests, in forestry, in livestock production, in aquatic production and in family sidelines all improved greatly.

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POLYESTER COTTON CLOTH PRODUCTION CUT BACK

Shijiazhuang HEBEI RIBAO in Chinese 24 Mar 82 p 1

[Article by Qian Yongsheng [6929 3057 3932]: "Provincial Textile Bureau Scales Down Polyester Cotton Production Plans While Increasing Pure Cotton Cloth and Low Proportion Chemical Fiber Products"]

[Text] In order to meet developing needs of the people's livelihood and strive to increase economic benefits, recently the Provincial Textile Industry Bureau readjusted product structure, scaling down polyester-cotton cloth production plans for this year while increasing output of pure cotton cloth that is currently in short supply in the market and which sells at the right price, and of cloth that is a blend of cotton and a low proportion of chemical fibers that enjoys sales in rural villages.

The downscaling of polyester-cotton cloth production plans was done on the common basis of last year's production of polyester-cotton cloth by textile industries throughout the country and market sales. The province's output of polyester-cotton cloth has been cut by 43 million meters from original plans, and corresponding reductions have been made in miscellaneous polyester-cotton cloth. Following the downscaling of polyester and cotton cloth production plans, production is to be strictly controlled according to plan. Superficially it appears that gross output value of the province's textile industry will be somewhat impaired; however, this measure should get rid of some fat so that the speed of development will be more solid. Furthermore, depending on market requirements, production of pure cotton products and products with a low proportion of chemical fibers may be increased. The Provincial Textile Industry Bureau is also preparing to organize before 1 May this year the cotton textile and printing and dyeing enterprises in the two cities of Shijiazhuang and Handan in combined test development of a group of polyester and cotton products suited to rural markets, and to go into villages to develop sales.

9432
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NEW, OLD HYBRID COTTON VARIETIES COMPARED

Shijiazhuang HEBEI RIBAO in Chinese 15 Apr 82 p 2

[Article by Su Shuangsuo [5685 7175 6956], Economic Crop Institute, Provincial Academy of Agricultural Sciences: "Disease-Resistant, High-Yield Yimaian No 2 Cotton"]

[Text] Yimian No 2 cotton (formerly termed Zhengding Zixuan No 3 or Zhengmian No 1) is a variety of cotton successfully bred by the Anxia Production Brigade's Science and Technology Team in Zhengding County, Hebei Province. Experiments and test plantings, as well as comparisons with Lumian No 1, which is currently winning prizes and being promoted thoughout the country, have attested to its leading position in many respects.

1. In fusarium yellow disease areas, yield are higher than for Lumian No 1. In 1978 and in 1980, these two varieties were involved at the same time in Huang He river basin area tests of varieties for resistance to fusarium yellow disease. At 12 different times and places over a period of 2 years, ginned cotton yields for Jimian No 2 averaged 157.3 jin, 18.6 jin more than for Lumian No 1. Six of these times and places were in Hebei Province where Jimian No 2 yields of ginned cotton averaged 174 jin per mu, an increase of 24.7 jin per mu of ginned cotton as compared with Lumian No 1. In addition, in fusarium yellow disease areas of Hebei Province the bumper yield properties and the early ripening properties of Jimian No 2 were also better than those of fusarium yellow disease resistant variety, Zhongmiansuo No 9 (formerly Zhong 399). At six different times and places over a 2 year period, average yields of ginned cotton were 8.8 jin more per mu than for Zhongmiansuo No 9. Before frost yields of ginned cotton were 6.8 jin more per mu (according to Huang He basin fusarium yellow disease resistant variety area data). Checks of two experiments this year by the Provincial Economic Crop Institute showed that the number of bolls per mu for Jimian No 2 were almost 4,000 more than for Zhongmiansuo No 9.

2. Increased yield potential is greater than for Lumian No 1. In area tests on conventional varieties conducted in the Huang He river basin, maximum yields for Jimian No 2 were 285.9 jin per mu of ginned cotton; for Lumian No 1, they were 264.9 jin (at Dali in Shaanxi Province in 1978). In nine of the experiments conducted at 35 different times and places over a 2 year period, Jimian No 2 exhibited ginned cotton yields of more than 200 jin per mu. The

same was true only three times for Lumian No 1. In area tests of fusarium yellow disease resistant varieties in the Huang He basin, maximum yields of ginned cotton for Jimian No 2 were 231.8 jin per mu; for Lumian No 1, they were 176.7 jin (in 1980 at Yongnian). In experiments conducted at 12 times and places over a 2 year period, Jimian No 2 produced yields of more than 200 jin per mu of ginned cotton in three, while Lumian No 1 had no yields of more than 200 jin at any test site. This shows the relatively greater increased yield potential of Jimian No 2 as compared with Lumian No 1. On the basis of test plantings over a several year period, leadership comrades at the Zhoujiazhuang Commune in Jin County believe the following: our commune, Jimian No 2 is superior to Lumian No 1. This variety does not lodge, does not degenerate early, and produces high yields.

3. Growth is better than for Lumian No 1. Because of the stronger growth of Jimian No 2, when grown on well manured ground, it is prone to vigorous growth that is difficult to manage. Secondly, in places where there was no yellow fusarium disease, it was relatively slow maturing. The opinion of communes and brigades in Hebei Province on the growing of Jimian No 2 is that though this is a high yield variety, it is not as easy to manage as Lumian No 1. When water and manure are increased during the mid-period, it is prone to vigorous growth. In area tests of conventional varieties conducted at 35 different times and places in the Huang He basin, pre-frost yields for Jimian No 2 averaged 29.7 jin per mu less than for Lumian No 1. However, in yellow fusarium disease resistant area tests conducted in the Huang He basin, its pre-frost ginned cotton yields were higher than for Lumian No 1. At several times and in several places in the Huang He basin, its yield averaged 3.6 jin higher, those in Hebei Province averaging 6.1 jin higher on six occasions in six places.

4. Fiber quality was virtually the same as for Lumian No 1. Results of fiber quality tests by the Huang He basin conventional varieties area testing organization showed quality of Jimian No 2 and Lumian No 1 to be virtually identical. Comprehensive appraisal of test spinning of 21-count yarn of the two varieties for 2 years showed both to be top quality second grade, their spinning qualities tending to be low.

5. Yields in areas free from disease were slightly lower than for Lumian No 1. In 1977 and 1978, Jimian No 2 and Lumiang No 1 were part of national area tests of conventional varieties conducted at the same time in the Huang He basin. Tests conducted at 35 different times and places over a 2 year period produced yields of ginned cotton averaging 154.4 jin for Jimian No 1, which was 4.2 jin per mu less than for Lumian No 1 (158.6 jin).

A summary of the foregoing shows Jimian No 2 to be no less a fine variety than Lumian No 1. In terms of increased yield potential, resistance to fusarium yellow disease and bumper yield qualities in yellow fusarium disease areas, it is superior to Lumian No 1. In Hebei province where a new situation of great development of cotton is underway, serious attention should be given this variety, and general methods should be adapted to local situations for the demonstration and promotion of this variety. In the course of demonstration and promotion, seeds should be dibbled to conserve the quantity of seeds used in order to enlarge the planted area with all possible speed.

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PROVINCIAL PRICE POLICIES, PRACTICES PROPOUNDED

Shijiazhuang HEBEI RIBAO in Chinese 18 Apr 82 p 2

[Article: "Officer in Charge at Provincial Commodity Price Commission Answers Correspondent's Questions About Commodity Prices. Actual Increases in Peasant, Staff, and Employee Income in Hebei Province During the Past Several Years Have Been Greater Than Increases in Expenditures Resulting From Increases in Commodity Prices, Meaning An Increase in the Actual Standard of Living of the Masses"]

[Text] Recently the officer in charge at the Provincial Commodity Price Commission answered the correspondents questions about commodity prices as follows:

Question: What has been the situation during the past several years in Hebei Province as regards market retail price rises?

Answer: During the past few years, market retail prices in the province have risen somewhat. Statistics show that the province's overall social commodity retail price index rose 1.4 percent between 1978 and 1979, 5.3 percent between 1979 and 1980, and 2.1 percent between 1980 and 1981. The total rise during the 3 year period was nine percent for an annual incremental increase of 2.9 percent, virtual stability in market prices being maintained. So why is it that people always feel that the prices of goods have risen a great deal? This is because: (1) everyone is aware of the price rise for consumption goods that they regularly buy such as pork, beef and lamb, eggs, vegetables, fruits, tobacco, alcoholic beverages and aquatic products. Though the prices for some durable consumer goods such as television sets, wristwatches, chemical fiber cloth, stretch socks, electric meters, and electric fans have gone down, the price decline for some of them being very great; nevertheless, since people do not buy such items frequently, they remain unaware of the substantial drop in their prices. (2) Once negotiated prices for some agricultural products and liberalization of farmers' market trade occured, some things that could not be purchased in the past could now be bought at any time, making it easy for the masses. However, for some things, the price in collective markets is higher than the national list price, and people who buy things in farmers' markets have to pay more. (3) As a result of increase in standards of living, people have higher demands for food, clothing, and items used in daily life. Development of medium grade goods has also meant increased expenditures. (4) Some goods sold by plants, stores, and beverage stalls are low in quality and high in price, or have been short weighted. Use of such tactics constitutes a hidden price rise. Some people have also taken it upon themselves to raise prices or to enlarge the scope of negotiated price items, selling them at high prices. All these things make people feel that prices have risen a great deal.

Question: Have price rises hurt improvement in the people's standards of living?

Answer: Price rises have caused some increase in the living expenses of the masses, which has hurt the people's livelihood. However, for several years now peasant, staff and employee income has actually increased more than the increase in expenditures. Statistics show that in the period from 1979 to 1981 increases in procurement prices paid for agricultural products alone brought an increase in peasant earnings throughout the province of more than 2.6 billion yuan. After price rises have been subtracted from this total, each peasant still realized increased earnings of somewhat more than 41 yuan. As a result of increases in wages, payment of bonuses and employment of workers, family income of urban staff and workers greatly increased. Statistics show that in 1981 every staff and worker in the province averaged annual wage income of 742 yuan, a 159 yuan increase over the 583 yuan of 1978 for a 27.3 percent increase. The extent of increase in wages greatly exceeded the extent of increase in prices. Therefore, the actual standard of living of the masses also rose. Naturally, for households in which there was little employment of workers, increases in wages, or payment of bonuses, living standards were slightly impaired or may have even fallen for a small number of people. This situation will be gradually solved with development of production.

Question: What major decisions has the state made with regard to pricing policies during the past several years?

Answer: The major decisions taken during the past several years have been as follows: First was to increase procurement prices paid for agricultural products, with increased prices being paid for purchases in excesss of quotas for grain, cotton, and edible oil. Comparison of 1981 with 1978 shows overall procurement price levels for farm products throughout the province to have increased by 39.62 percent. Not only was this advantageous for peasants, but was also remarkably effective in development of industrial production, in providing an abundance of products to markets, and in improving the livelihood of people in cities.

Second, in the case of some consumer goods used in daily life for which prices were not fair, planned readjustments upward or downward were made. Since the second quarter of 1981, price hikes in the province have totaled more than 80 million yuan while price drops for the province have totaled more than 94 million yuan. Equitable upward or downward readjustments in the prices of goods have helped promote development of production, have helped expand circulation of commodities, and have played an active role in the coordinated development of the national economy. Some people suppose that stabilization of prices means one cannot carry out readjustment, or that prices can only go down but not up. Such notions do not take account of all factors, and do not fit in with the objective requirements of economic development. Maintenance of fundamental stability of market prices is our unswerving policy. While maintaining fundamental stability of commodity prices, we can readjust inequitable prices upward or downward. Stable prices are not frozen prices; there must be fundamental stability with equitable readjustments.

Third, in price management the former method whereby the setting of prices was done uniformly by the state alone has been broken. Instead multiple forms of pricing have been adopted including setting of prices by the state, negotiated prices and country fair trade prices. These fully embody the principles of taking the planned economy as primary and regulation by market mechanism as secondary. This way of doing things helps surmount the former excessive control and stifling control of prices, which impeded production and circulation of goods, and it helps enliven the economy. In this regard, because of lack of experiences, some problems still exist and steady improvements will be required in the course of practice.

Question: What actions have the party and the state taken to maintain the fundamental stability of market retail prices?

Answer: During the past several years, in order to maintain the virtual stability of market prices, the CCP Central Committee and State Council, the Provincial CCP Committee, and the Provincial People's Government have issued a series of major instructions strictly controlling commodity prices, restructuring negotiated prices, carrying out large sclae checks on commodity prices, and intensifying commodity price controls and supervisory work. In addition, procurement prices paid for agricultural products have been increased, but sale prices of basic necessities, which account for a very great proportion of the people's living expenses, have not been touched (e.g. for supply of fixed amounts of grain, edible oil, and cotton used for wadding). Losses resulting from such deals have been subsidized from national revenues. Although commensurate readjustment has been made in the sale price of some things (such as eight categories of non-staple and processed food made from pork, eggs, poultry, vegetables, and aquatic products), the state has instituted price subsidies for some industrial goods. Statistics for 1980 show price subsidies for the province to have totaled more than 1.2 billion yuan, accounting for about 30 percent of revenues. Price subsidies for grain and oil amounted to somewhat more than 400 million yuan. For example, actual procurement price paid for standard noodles averaged 0.25 yuan per jin, yet they were supplied at 0.185 yuan per jin. Corn flour was purchased at an average price of 0.17 yuan per jin and supplied at 0.116 yuan per jin. Average procurement prices paid for peanut oil was 1.42 yuan per jin, but it was supplied at 0.84 yuan per jin. Cotton subsidies amounted to more than 300 million yuan; price subsidies for non-staple foods amounted to more than 200 million yuan; price subsidies for coal purchased in markets for use in the daily life of the people amounted to more than 60 million yuan; and subsidies for soap and washing powder amounted to more than 4 million yuan. The state even subsidized the price of students' textbooks and red scarves. At the same time prices and fees paid for rent, for water and electricity, for train and bus tickets were strictly controlled and straightened out so that, insofar as possible, expenditures by the masses would not be increased.

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PROXIMITY TO CITIES EXPLOITED TO DIVERSIFY LOCAL ECONOMY

Shijiazhuang HEBEI RIBAO in Chinese 2 Apr 82 p 2

[Article by Shi Tongwen [0670 0681 2429] and Jia Yujun [6328 3768 0689]: "Make the Most of Local Advantages Through Development of Economic Diversification. Langfang Prefecture's Income Last Year From Economic Diversification Amounted to More Than 60 Percent of Total Rural Income"]

[Text] By actively making the most of its advantage in being near the two cities of Beijing and Tianjin, Langfang Prefecture has won outstanding economic results from its vigourous development of economically diversified production. In 1981, the prefecture's income from commune and brigade economic diversification amounted to 524.6 million yuan, more than 60 percent of its total rural economic income and a 37 percent increase over 1978.

In order to take full advantage of its location close to the two cities of Beijing and Tianjin, Langfang Prefecture was at great pains in the development of its economic diversification to organize production to meet market needs in the two cities. In view of the serious shortages of fresh vegetables, melons, and fruits in the two cities every year in the past, they energetically increased output of fresh vegetables, melons, and fruits and took the initiative in doing a good job of transportation and supply work. In 1981 the prefecture provided Beijing and Tianjin markets with more than 400 million jin of fresh watermelons and vegetables of various kinds, earning more than 22 million yuan thereby. Both Beijing and Tainjin were fairly short of building materials, so Sanhe, Xianghe, and Dacheng counties in Langfang Prefecture used local resources to produce construction materials such as cement, lime, crushed stone, and bricks, which enjoyed a very good market. Now small commune and brigade operated building materials enterprises in the prefecture number more than 270, employing more than 20,000 people. Many of the communes and brigades in the prefecture have used local agricultural products to do large-scale processing of small food items. For example, Chengguan Commune in Dacheng County, a county that produces prodigious quantities of mung beans and in which the masses know the techniques for processing mung bean pudding, organized the masses to make mung bean pudding. Within a year's time, the commune was operating 67 mung bean pudding processing plants that employed nearly 1,000 people. Between January and October last year, earnings were 2.1 million yuan, more than 50 percent of the earnings of all commune and brigade enterprises in the prefecture.

Langfang Prefecture also used various methods of association to actively bring into the prefecture funds, skills, and enterpirse management experiences from Beijing and Tianjin. During the past 2 years, it has developed in cooperation with the two cities a total of more than 1,700 joint economic operations including just stock ventures, compensatory trade, and processing of materials brought in from elsewhere. Last year, gross earnings totaled more than 31 million yuan for profits of more than 14 million yuan.

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KEY MEASURES TO COMBAT DROUGHT REITERATED

Shijiazhuang HEBEI RIBAO in Chinese 28 Mar 82 pp 1, 2

[Article: "Strengthen Leadership; Give Firm Attention to Crucial Measures; Thoroughgoingly Carry Out "Double Assurances" in Combat Against Drought. Officer-in-Charge at Provincial Flood Prevention and Drought Combat Command Expresses Views to the Correspondent on How To Carry Out the Struggle Against Drought Now"]

[Text] Recently an officer-in-charge at the Provincial Flood Prevention and Drought Combat Command expressed views to this newspaper's correspondent about the present drought situation in the province and about how to launch struggle against drought. He said the following.

The drought situation in Hebei Province is now extremely serious. Since the lunar new year, rain and snow have continued scant. During the last 10 days of February there were two light to moderate rainfalls, and in prefectures to the south of Baoding and Hengshui, there was somewhat more. At first some amelioration of the drought seemed possible, but because of the long drought and the recent steady climb in temperatures, soil moisture has evaporated quickly. Even in places with faily large rainfall, basic soil moisture has not been re-established. Measurements made at various places show soil moisture content at a depth of 10 centimeters to be 13 to 14 percent, and at a depth of 20 centimeters to be only 9 to 11 percent. The area of the province lacking sufficient soil moisture now covers more than 59 million mu. Unless a soaking rain soon falls, it will not be possible to sow on time on an unplowed field area of almost 20 million mu. As a result of consecutive years of drought, sources of irrigation water have been greatly reduced. The quantity of water available for use in the province's large and medium size reservoirs is now less than one-fourth the amount available in ordinary years. The groud water table continues to decline precipitously. In mountain areas and on the plains, the number of production teams experiencing difficulties with drinking water for people and livestock is steadily increasing. Some teams have to haul drinking water from as far away as 90 li. According to forecasts from meteorological units, rainfall during April will continue to be less than in normal years.

Faced with serious drought, all jurisdictions have taken vigorous action to launch a struggle of "one combat and double assurance." Following two telephone conferences by the Provincial CCP Committee and the provincial government, counties and prefectures have convened different kinds of conferences of implementation in which were put forward specific actions and requirements, and a large number of cadres were sent into the front line of combat against drought. According to incomplete statistics, a total of somewhat more than 22,300 cadres were sent into the front lines of combat against drought everywhere. All jurisdictions have given strict attention to institution of pump well management responsibility systems. More than 300,000 of the 480,000 pump wells that have been equipped in the province have established pump well management responsibility systems. This amounts to 65 percent of all equipped pump wells. All jurisdictions have also stirred the masses to open up new water sources. As of the end of February, the province's newly opened pump wells, equipped pump wells, and delapidated wells restored to operation numbered more than for the same period last year. In addition, some small water conservancy projects that can be used to combat drought during the present year requiring little investment and showing quick results have been built. These all greatly increase capabilities to combat drought. Spring irrigation has been done on 10.65 million mu of wheatfields and as yet unplowed fields, 3.05 million mu more than was watered during the same period last year. In addition, strict attention has been given the hoeing and raking of wheatfields and the harrowing of the land to conserve soil moisture.

In order to have a fairly good summer harvest and complete spring sowing tasks on time, all jurisdictions should give attention to the following tasks in their combat against drought.

First is strengthening of leadership of drought combat work. Party and government units at all levels are to transfer large numbers of cadres to the front line of combat against drought, and leadership cadres at all levels are particularly to further change their work style, going to places with great hardships and going to places where life is arduous to help solve practical problems in the fight against drought. Cadres who go down to the countryside are to direct their attentions first of all to the building of grassroots teams, and to the reorganization of the small number of moribund or semi-moribund leadership teams in order to be able to concretely organize leadership of the masses for combat against drought.

Second, when perfecting agricultural production responsibility systems, pump well management responsibility systems must be put into effect so that full benefits may be derived from existing pump wells. A look at the present situation shows that 35 percent of pump wells lack systems of responsibility, and at a substantial number of pump wells no one is in charge; water is available, but the fields cannot be watered. This problem must attract a high degree of attention on the part of all jurisdictions. The establishment and perfection of pump well management responsibility systems must be taken in hand as an important matter in the task of combating drought this spring, forces being concentrated in time for diligent attention to implementation, well by well, for resolute solution of the problem of pump wells with no one in charge, and having wells but not being able to water the fields. No matter the form of agricultural responsibility system instituted, pump wells must be under centralized management of production brigades or production teams, and where pump wells and pumping machines have been parceled out, they must be resolutely recovered. Those who steal pumping machines or damage pump wells and other water conservancy facilities are to be promptly and severely dealt with.

Third, water sources are to be expanded to increase capabilities to combat drought. Places having requisite conditions are to vigorously seek fresh water by digging shallow wells, individual households or a collection of households digging the wells, the method to be used being ownership, management, and use belonging to the diggers to encourage the masses to sink pump wells. Pump wells that have not yet been equipped should be equipped, and crumbling or abandoned wells put back into operation. The masses should be aroused to dig open old brick wells, to open hand pump vacuum wells, and to dig ditches and pits. Places having water above ground that can be used should manage and use it well so that it can play a full role in combat against drought. In addition, full use should be made of urban waste water and mining area effluent, every available means being used to expand sources of water and increase capabilities to combat drought.

Fourth, is diligent scientific use of water, planned use of water, and conservation in use of water. The most important actions to be taken are sealing leaks in ridged ditches from pump wells, leveling fields, irrigating small plots, combining the flow from many wells, watering with a combination of brackish and fresh water, rolling of unplowed fields before watering them, and active development of spray irrigation, conserving water resources to the maximum extent possible while expanding the area watered. In addition, a good job of harrowing and rolling should be done to conserve soil moisture, and wheatfields should be hoed and raked to reduce moisture evaporation. In places where spring sowing tasks are heavy and water resources insufficient, preparations should be made to dibble seeds to combat drought in an effort to plant on time. In low-lying areas where water resources cannot be assured, general methods should be adapted to local situations in a readjustment of crop patterns, with greater planting of drought-resistant, waterlogging-resistant, and alkaline-resistant crops.

Fifth, attention should be given to conservation of petroleum and electricity. Right now petroleum products and electricity are in seriously short supply. This is particularly true of diesel oil. Counties, communes, and brigades are to assign people to management of diesel oil, allocating oil for use on the basis of irrigated area criteria, and supplying oil on the basis of the pace of watering. At the same time effective action should be taken to plug diesel oil leaks and, when necessary, to restrict other uses of oil to assure needs for combating drought. In the case of pump wells that use electricity, the masses should be organized to the maximum extent possible to water fields during nighttime hours of low demand.

Sixth is carrying forward a spirit of self reliance. There are limits to support funds that the state can provide to combat drought; mostly the strength of the masses will have to be relied upon, and there will have to be conscientious organization. Expense funds to combat drought handed down by the province should be well managed and well used. Funds to combat drought must be used where they will do the most good. They should be used to provide timely help, going mostly to sustain communes and brigades suffering economic hardships, making them play a role as rapidly as possible.

Seventh, all trades and industries must vigorously support combat against drought. Commercial units should make plans for allocation and supply of diesel and engine oil; electricity units are to solve problems in use of electricity to combat drought; supply and marketing units are to assure prompt supply of materials needed to sink wells; farm machinery units are to organize technicians to go into the countryside to help commune and brigade maintenance of drainage and irrigation equipment; and banking units are to promptly issue loans to support communes and brigades in combat against drought.

We believe that with the strengthening of leadership and the mobilization of the people throughout the province to surmount paralysis and the trusting to blind luck, and by building confidence, victory can surely be won in the struggle against drought.

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CONSERVATION OF AGRICULTURAL USE OF WATER EMPHASIZED

Shijiazhuang HEBEI RIBAO in Chinese 13 Feb 82 p 2

[Article by the Science Coordination Office of the Shijiazhuang Prefecture: "Conserve Agricultural Use of Water, Restore Balance Between Extraction and Replenishment"]

[Text] At present, anarchy exists in the use of water for agricultural irrigation. Each unit reigns over its own resource and each unit extracts water without restraint. This has created great destruction of the resources of water supply. Shijiazhuang Prefecture always had rich underground water resources, and it believed that such resources were inexhaustible, so no attention was given to retaining and storing water sources and conserving the use of water. In recent years, extraction of underground water has not been limited and there have been no quotas for the use of water. Because of massive extraction, the balance between extraction and replenishment of underground water has been destroyed, and the level of the water reserves has decreased year after year. At the beginning of the 1960's, the level of underground water was not deeper than 4 meters. Now, the level has reached more than 10 meters deep, and "funnel" areas of varying degrees have emerged in Zhao County, Jin County, Gaocheng, and Zhengding. The large-scale drop in underground water has forced the abandonment of over 30,000 mechanized wells. Less than 20 percent of the rest of the mechanized wells are able to produce full wells of water. The yield of agricultural production has been reduced in many places, and in some places there have not been any harvests. Take wheat as an example: last year, 270,000 mu of wheat fields did not produce a harvest because of a lack of water and on 400,000 mu there was a reduced yield, so there was a shortage of over 100 million jin in the yield of wheat. Last spring, 390,000 mu of spring sown fields became summer sown fields because of drought and little rain. After the underground water level dropped, the distance for pumping water to the surface increased, and this raised the consumption of fuel and power. Some localities also had to purchase new water lifting equipment. This increased the cost of agriculture and reduced the income of farmers. Therefore, the problem of scientific exploration and utilization of water resources has become more than simply an academic problem: it is an acute, real problem affecting the life of the people and the nation that needs to be solved urgently. At present, the water sources in some localities are deficient. This has already brought about serious loss to the development of the national economy. This lesson must be learned.

The greatest hindrance to conservation of water at present is the widely existing emphasis on developing water sources while neglecting conservation of water flow, the attention to immediate benefits and the neglect of long-term benefits, and the emphasis on determining supply based on need and silence in determining need based on supply. To solve these problems, recognition of the crisis in water resources by the leadership at each level must be increased. At present, the conflict between supply and demand on water resources must be eased. We must manage the following aspects in a key way. First, we must draw up plans and strengthen management. We must zone the regions for water conservancy well, and establish concrete measures and methods for scientific use of water. We must implement various forms of the responsibility system to closely combine conservation of water with the economic benefits of the departments and the individual. Second, we must conserve water via many channels. Measures must be implemented to prevent leakage in water conservancy projects and main waterways by suiting measures to local circumstances to improve the effective utilization coefficient of canal systems. We must retain water and soil well, bank soil fertility, thicken the soil layer, level the land, strengthen raking, and change the unscientific method of using irrigation to replace tilling. We must develop the good tradition of fine tilling and careful planting, change large ridges into small ridges and long ditches to short ditches. We must exert efforts to explore the pattern of the need for water of different crops and irrigate scientifically at the appropriate time and in appropriate amounts. Third, we must rationally exploit water sources and open up broad water sources. We must establish the concept that the entire prefecture is one chessboard in agricultural use of water, and all kinds of water sources such as canals, wells, reservoirs and ponds must be uniformly controlled and used. We must fully utilize various kinds of abandoned water sources and actively develop back irrigation. We must develop the gain of groups of wells so that deep, medium and shallow wells can be combined. We must strengthen the study and utilization of alkaline water, polluted water and water in the soil so that their function can be developed for production.

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PROVINCIAL GOVERNMENT INSTRUCTS ALL CITIZENS TO PLANT TREES

Shijiazhuang HEBEI RIBAO in Chinese 11 Feb 82 p 1

[Notice issued by the Hebei People's Government on 9 February 1982: "Notice on Tree Planting Duties by All Citizens, Hebei Provincial People's Government (No Other Circulars)"]

[Text] To all regional administrative offices, all city and county people's governments (revolutionary committees), all departments of the provincial government:

The "Decision Concerning the Duties of All Citizens in the Tree Planting Movement" passed by the Fourth Session of the Fifth National People's Congress pointed out: "All citizens of the People's Republic of China reaching 11 years or age, except for the old, the infirm, the sick and the handicapped, must suit measures to local circumstances, and each person has the duty of planting three to five trees a year, or cultivating saplings, managing and protecting trees and fulfilling other greening duties equivalent to the amount of labor in tree planting." To implement the movement of the voluntary tree planting duty by all citizens broadly, profoundly and persistently in all provinces, cities and villages, and to combine the notice with the actual situation in our province, the following notice is issued:

I. The voluntary tree planting movement by all citizens is an important strategic measure to green the motherland, to control mountains and rivers, and to maintain and improve the ecological environment. It will greatly promote the beautification of the motherland stimulate the wealth of the nation, bring prosperity to the nationalities and civilization to society. Each locality and each unit must conscientiously study and propagate in a visible way the "decision" concerning voluntary tree planting as passed by the Fourth Session of the Fifth People's Congress so that every family knows and everyone understands and every citizen can conscientiously participate in the voluntary tree planting movement.

II. Each locality, city, county, each commune and each brigade in farm villages, each agency, plant, mine, school and business unit must plan voluntary tree planting well. The duty of planting three to five trees by each person must be implemented at each basic level and by each individual and in each plot of land according to each sector and each unit. Communes and brigades in farm villages must first afforest expanses of land suitable for forestation, build forest networks in farmland, and plant trees in land surrounding villages and towns. Communes and brigades in mountain regions must organize commune members to complete the duties of greening and forestation of private mountains and contracted mountain land for forestation which are their personal responsibilities while the communes and brigades complete the voluntary duties of planting trees. Cities must carry out the work of greening public land, greening scenic attractions and ancient ruins and land along streets. Offices, schools, troop units, factories and mines must first carry out the work of greening their own units. Voluntary tree planting should first be arranged for nearby state-run timber farms, commune and brigade timber farms or state-run cooperative forest farms.

III. Sapling cultivation must be carried out well. Each locality must exert efforts to manage the present state-run nurseries, nurseries in gardens and forests, nurseries for railroads, and commune and brigade nurseries. At the same time, a definite area of land and specialized personnel must be arranged to expand and build new sapling bases and cultivate superior quality and healthy saplings. City and town offices, factories and mines, troops, schools and such units must be encouraged to build their own nurseries. Units that do not have conditions for establishing nurseries can sign contracts with nurseries for sapling supplies and for ordering supplies of saplings. State-run timber farms and state-run nurseries must all actively produce commercial saplings for voluntary tree planting. Communes and brigades in farm villages that have contracted work to the families and production to the families must establish the area for sapling cultivation according to the size of the task of forestation and appropriate sufficient land for sapling cultivation. The investment in saplings needed for voluntary tree planting by each locality and each unit should generally be solved by the units holding rights to forest timber themselves. The financial offices of the local governments at each level must allocate a definite sum each year to support voluntary tree planting.

IV. The task of voluntary tree planting must include attention to practical results and guarantee quality and quantity in completing the task. Measures must be suited to local circumstances, trees suitable to the locality must be planted, and there must not be arbitrary uniformity. Technical knowledge in greening and tree planting must be popularized, technical rules for voluntary tree planting must be established, and technical backbone forces must be trained and technical guidance strengthened so that every tree planted will live. Management and protection of forests must be strengthened, the responsibility system of protecting forests must be soundly established, and special teams, special groups and special persons must be assigned to manage and protect the trees. Felling and renewing forests must be carried out according to regulations and must be approved. No unit and no individual is allowed to fell trees at will or to destroy trees.

V. Leadership in voluntary tree planting must be concretely strengthened. Comrade Li Erzhong [2621 1422 6850] heads the Provincial Greening Committee as chief commissioner. Each level must establish a greening committee to be headed by a leading comrade of the local government and to consist of responsible comrades of related departments and civilian organizations who will be uniformly responsible for the greening of the locality and for organizing leadership in voluntary tree planting. This year's voluntary tree planting work must be actively started and must progress steadily. All localities with mature conditions, such as localities with sufficient saplings, localities that have plans and that have technical training, must launch the tree planting movement on an overall basis. Localities with immature conditions must actively work well to create appropriate conditions. We must adhere to the principle of doing the easy tasks first and the difficult tasks later and develop a group of key localities and units for voluntary tree planting to summarize experience, to develop the point to lead the rest, and to push forward the development of voluntary tree planting. The greening committee at each level must inspect the progress in voluntary tree planting once a year in the fall and must report to the people's government at the same level. Those with outstanding achievements should be praised and rewarded. Units or individuals who do not carry out the duties without reason should be subjected to criticism and education or economic sanction.

Hebei Provincial People's Government
9 February 1982

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STRENGTHENING PUMP WELL RESPONSIBILITY SYSTEM URGED

Questions on System Answered

Shijiazhuang HEBEI RIBAO in Chinese 22 Mar 82 p 2

[Text] Question: Right now the drought situation is serious throughout the province. How can the full benefits of pump wells be brought into play to combat the drought?

Answer: Over the years Hebei Province has built almost 500,000 fully equipped pump wells to water an area of more than 40 million mu, which is more than 70 percent of theprovince's total irrigated area. Making full use of the benefits pump wells can provide is a major assurance for victory against drought. Moreover, the priority task of the moment in making full use of benefits pump wells can provide is the building and perfecting of pump well management organizations, assignment of management personnel, and formulation of management systems. A look at the present situation shows that results differ greatly from good and bad management of pump wells. In Yongnian County, after the Tongtou Production Brigade instituted a pump well management responsibility system, individual well benefits increased from the former 57 mu to 107 mu, and costs per mu per time watered fell from 1.03 yuan to 0.48 yuan. Diesel fuel consumption per mu per time dropped from 4.1 jin to 2.[illegible] jin. Additionally, institution of responsibility systems also paid off in lengthening the useful life of pump wells and their equipment. Therefore, in today's situation of severe drought and a lack of water sources, in perfecting their systems of responsibility every jurisdiction should first of all establish and perfect pump well management responsibility systems.

Question: What is the present situation in Hebei Province regarding pump well management responsibility systems?

Answer: Along with the consolidation and perfection of agricultural production responsibility systems, numerous places have devoted attention to implementation pump well management responsibility systems. In terms of the province as a whole, responsibility systems that have been handled rather well number about 50 percent of the total. The other half have not been handled well, and more than 10 percent of these have no one in charge. Irrigating the fields is very difficult in these, and fights over wells, fights over machinery, and even damage to the pump wells and machinery has taken place. This is a very large problem to which all echelons of leadership must devote a high degree of serious attention and rapidly take action to effect a change.

Question: What forms of pump well management responsibility systems currently exist in Hebei Province?

Answer: Right now Hebei Province's pump well management responsibility systems are mainly of four different kinds: One kind is centralized management by production brigades or production teams, whereby the actual task of managing wells and using wells is contracted to specialized teams. A second kind uses well teams in the practice of a specialized contracting responsibility system. The specific method used is to fix field watering tasks on the basis of pump well water output and condition of the pumping equipment, assigning pump operators or field plot hands control over the watering of fields. A third kind is contracting pump wells or pumps to individual commune members or peasant households, making contracts by the quarter or by the year, some of them providing for complete assignment of responsibility for expenses, some of them contracting costs per mu per time, the time of watering being set for each mu, and fees collected according to the amount of time, the plots being looked after by the households. The fourth kind is a responsibility system whereby land supports the well. In this system, in addition to looking after the well, the pump operator is assigned a certain amount of land around the well for development of economic diversification. Income from use of this land provides compensation to the pump operator. Recently some places have tried setting up pump well companies, collecting fees according to fixed standards from households whose land is watered.

Question: What problems have to be given attention and solved in the establishment and perfection of pump well management responsibility systems?

Answer: Experiences of some communes and brigades that have managed pump wells properly show that the following must be done in order to do this work right: 1) Production brigades and production teams have to have cadres specifically responsible for this work, and they must steadily summarize experiences and solve existing problems. 2) For each pump well one or two people who are enthusiastic about the collective, who have a strong sense of responsibility, and who have certain cultural and technical attainments should be selected, and relative stability should be maintained in such assignments. 3) Good solution to problems of responsibility, rights, and benefits of pump operators. There should be a defined system of responsibility for pump operators. Those who fulfill tasks well should be commended and given rewards; those who do not fulfill their tasks or manage badly should be criticized and indoctrinated. 4) Solution to the relationship between the "centralized" and the "contracted." Pump wells are collective property that should certainly be maintained under centralized management for centralized use. Places that practice "double contracting" responsibility systems should particularly not dismantle pump wells and equipment.

Question: At this time when the drought is serious in Hebei Province, what is to be done about places where no one is in charge of pump wells and where watering cannot be done from wells?

Answer: These places have to take firmly in hand the establishment of pump well responsibility systems. If time is pressing and they cannot set up such systems at once, they can appoint people responsible for them, and management methods may be worked out gradually from the simple to the complex. It is also possible for production brigade or production team cadres to take charge of pump wells, resolutely surmounting the situation of having wells but not being able to do watering. In addition to this, it is necessary to resolutely halt the destruction of pump wells and the private dividing up of machine pumping equipment. All pump wells or machinery that belong to the collective and have been divided up must be handed back. Whatever had been destroyed must be paid for. Those who have illegally occupied or destroyed state or collectively owned water conservancy projects or facilities are to be criticized, indoctrinated, and required to pay compensation for damages in not so serious cases. Serious cases should be punished according to the law.

Provincial Notice Issued

Shijiazhuang HEBEI RIBAO in Chinese 31 Mar 82 p 1

[Text] Recently the Provincial CCP Committee Rural Work Department and the Provincial Water Conservancy Department jointly issued a "Notice on the Establishment and Perfection of Pump Well Management Responsibility Systems," which requires all jurisdictions to treat as a matter of urgency the establishment and perfection of pump well responsibility systems in the perfection of agricultural production systems of responsibility, and as a key measure of "double assurance" in combat against drought, taking it firmly and well in hand.

The notice said that the nearly 500,000 fully equipped pump wells in the province are a major result of the province's water conservancy construction, are precious wealth accumulated by the arduous labor of cadres and masses over a period of many years, and are a major guarantee for combating drought to promote increases in agricultural production. Since the Third Plenary Session of the 11th Party Central Committee, many communes and brigades have established pump well management responsibility systems, which have played an outstanding role in improving irrigation benefits and lowering irrigation costs. However, pump well responsibility systems have not been set up in some communes and brigades, or else, though set up, they are far from complete. In some brigades that practice "double contracting" pump wells are not under centralized management and there is no responsibility system. In some there are pumps but no watering is done; there is fighting over the wells and the pumps, or even destruction of pump wells and the selling off of machinery to the serious impairment of benefits from pump wells. All jurisdictions must direct a high degree of serious attention to this matter, take effective action, and diligently solve the problem.

The notice required all jurisdictions while implementing the spirit of the national rural work conference to make the establishment and perfection of pump well responsibility systems an urgent task in perfection of agricultural production systems of responsibilities, and to make it a key measure in doing a good job on the "one resist and double guarantees," diligent attention being given it production team by production team and well by well. Where such responsibility systems have been established, experiences should be summarized and further perfection done. No matter the form of responsibility system established, it should conform to the agricultural responsibility system. There should be adaptation of general methods to local situations, and adaptation of general methods to individual production teams, permitting diversity, no "arbitrary uniformity" being practiced. No matter the form of agricultural production system of responsibility practiced, pump wells must be under the centralized management of production brigades or production teams. No matter the form of pump well responsibility system, commune members should be aroused to democratic discussion and decision. For each well, one or two people who love the collective, who have a strong sense of responsibility, and who have certain technical attainments should be assigned as pump operators, and there should be relatively little change in such assignments. Pump operators' rights, responsibilities and benefits should be clearly set, and centralized management and centralized watering should be maintained. In brigades in which pump well management systems cannot be established for the time being, a production brigade or production team cadre should be assigned to pump well management and to the organization of service, so that the wells can play a role in combat against drought.

The notice stressed that all levels of CCP committees, government, and rural work units must strengthen leadership over the establishment and perfection of pump well management responsibility systems, take centralized action, and conscientiously supervise and promote check-ups. All levels of water conservancy units are to conscientiously take in hand pump well management as an important task, and help communes and brigades in concrete ways to establish and perfect systems of responsibility, solving existing problems. Water conservancy cadres at all levels are to gradually establish personal responsibility systems, making explicit reward and punishment methods. Communes are to designate one cadre responsible for taking charge of pump well management and all water conservancy work, and when there are difficulties in the assignment of commune personnel, they may be transferred from county water conservancy departments to solve the problem. Production brigades and production teams are to have a single cadre take charge of water conservancy work. All places having wells and pumps that are not being put to use are to investigate leadership responsibility. Dismantling, destruction, or damage to pump wells and other water conservancy facilities is to be resolutely corrected. Equipment distributed among households must be taken back. What has been destroyed must be restored as a matter of urgency. In cases of illegal occupation or damaging of state or collectively owned water conservancy project facilities, investigation of responsibility is to be carried out and restitution for damages paid, economic penalties being imposed as required according to varying circumstances. In cases where serious damage has been done, criminal responsibility is to be fixed.

9432
CSO: 4007/367

HUNAN

NEED FOR SKILLED SEED PRODUCTION TECHNICIANS UNDERSCORED

Beijing RENMIN RIBAO in Chinese 20 Apr 82 p 2

[Article by Correspondent Yang Shanqing [2799 0810 3237]: "Improve Hybrid Rice Seed Production Work"]

[Text] Recently the correspondent learned from agricultural units in Hunan Province that some places suppose that hybrid rice seed production has passed all tests and, as a result, new problems that have appeared in seed production following institution of responsibility systems have yet to be promptly studied and solved. Consequently, the number of units producing seeds has increased but technical guidance has not kept up; yields have dropped; quality has declined; and accidents involving mis-matching and misuse of seeds have occurred. Statistics show that last year in Hunan Province, seeds were mis-matched for 14,000 mu of late rice in seven counties, resulting in a more than 8 million jin reduction in grain output.

In view of this situation, Hunan Province convened a conference of seed company managers from all prefectures, municipalities, and some counties to summarize the lessons of experience in hybrid rice seed production work. The composite view of the group is that seed production now must give attention to the following several improvements.

1. Purification and rejuvenation of the "three line" (sterile line, sterile-free line, and restorer line) parent pairs. Only when the "three line" parent pairs are of a high degree of purity can a fine variety hybrid generation be produced to make use of increased yield heteroses and win bumper harvests in open fields. Consequently all prefectures are to provide financial, material, and technical resources, strengthen cooperation among individual units, and select stock farms having the best conditions for the breeding of parent pairs. Seed companies are, without exception, to be in charge of supplying parent pairs of the "three lines." Production, storage, and release must strictly follow technical control regulations to insure quality.

2. Adherence to centralized continuous tract seed production. Experience has shown that only through the organization by counties of continuous tract seed production can manpower, financial, and material resources be concentrated for

use, and leadership be better strengthened to provide good technical guidance and prevent mix-ups among hybrids to obtain high yields, superior quality, and low costs. Formerly Suining County dispersed its seed production, and yields averaged only 60 jin per mu, with more than 20 percent of seeds being mis-hybridized. In 1979, they began to centralize seed production on continuous tracts and yields per unit of area climbed year after year. By 1981, yields were 215 jin per mu, and purity of 91.2 percent of the seeds met first grade standards. As a result of dispersed seed production of late crop hybrid rice on more than 3,000 mu in Chaling County last year, varieties were mismatched and not a single kernel was harvested. From this it may be seen that dispersed seed production must be resolutely corrected and continuous tract seed production energetically organized.

3. Establishment of a Skilled Technical Corps. The experiences of some advanced units show that for every 1,000 to 1,500 mu of seed production area, one technical cadre has to be assigned. For every 100 to 150 mu, one peasant technician has to be assigned. Comrades who are professionally competent and have a strong sense of responsibility are to be chosen as technical personnel, and they are to be given strict training with no improvisations. A responsibility system of four fixeds and one reward (fixed seed production area, fixed seed yields per unit of area, fixed seed quality, fixed wage compensation, and reward for overfulfillment) is to be instituted for seed production technicians so as to fully arouse their enthusiasm to strive to do a good job of seed production work.

9432
CSO: 4007/383

JIANGSU

DITCHING TECHNIQUES USED TO RELIEVE WHEATFIELD WETNESS

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2

[Article: "Huainan Prefecture Solves Wheatfield Damage Caused by Wetness For Rapid Development of Wheat, Barley and Naked Barley Production"]

[Text] Jiangsu Province's Huainan region is crisscrossed by streams and harbors, and has numerous lakes and marshes. The ground water table is high and quantity of rainfall is great. For many years this region's 25 million mu of wheatfields have sustained damage from wetness, which has impaired high and consistent yields. In order to effectively prevent wetness damage to wheat, barley, and naked barley, the region's agricultural science and technology promotion personnel worked together with the farflung cadres and masses on experiments and demonstrations supported by agricultural levels at all levels in the province and prefectures, promoting use over a wide area of a series of ditching techniques for draining water and lowering the wetness of wheatfields. Today a combination of open and underground ditches and of ditches in the fields and outside the fields has been formed throughout the province. Building of ditches to drain away water has been linked to control of the water level in inland streams in an integrated technical system for comprehensive control of damage from wetness. Specifications attained have been "for every wheat field, discharge of water from both ends; three ditches linked to form a whole; free and clear all around, open and hidden ditches in combination, and the inside and outside of fields linked together." This has effectively solved the problem of damage to wheatfields resulting from wetness, and has promoted rapid development of wheat, barley, and naked barley growing throughout the province. In Suzhou, Zhenjiang, Yangzhou, and Nantong prefectures, and in Nanjing municipality, the wheat growing area of the Huainan region, wheat, barley, and naked barley yields per unit of area have steadily climbed. Between 1978 and 1980, wheat yields were 472 jin per mu, a 43.2 percent increase over the early 1970's. Figuring an 80 jin per mu increase in the wheatfield area equipped with the three kinds of ditches, for the province as a whole the increase in wheat, barley, and naked barley harvest in the 3 year period from 1979 to 1981 was more than 5.3 billion jin.

9432
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JIANGSU

PROVINCIAL LIVE HOG PRODUCTION BEGINS RECOVERY

Beijing RENMIN RIBAO in Chinese 7 Apr 82 p 1

[Article: "Taking Timely Measures Aimed at the New Situation, Jiangsu Province Live Hog Production Begins Recovery"]

[Texg] Measures taken by Jiangsu Province to develop live hog production has produced results. Since the beginning of this year, farm villages of the whole province have basically turned around the situation of persistent decline in the number of sows in pens and the slackening sales of young pigs. A recovery trend in the production of live hogs has emerged. According to statistics up to the end of February, the number of sows in pens throughout the province (including reserve sows) has approached the level of the same period last year. From January to February, the number of young pigs throughout the province increased 1.5 million head from the same period last year. In February, the number of live hogs throughout the province in pens increased by 150,000 head over January, and the number in March showed further increase over February.

Jiangsu Province is one of our nation's key regions producing commercial hogs. In recent years, 1,700 to 1,800 head of fattened hogs were submitted and sold to the state each year. Last year, the number of fattened hogs and sows dropped, and the sale of young hogs throughout the province has slackened since the second quarter of last year during the course of perfecting the agricultural production responsibility system at the localities. The responsibility system for raising hogs was not implemented in time and some measures carried out by the localities to encourage commune members to raise hogs were not conscientiously implemented.

To change this situation, the Provincial Committee of the Chinese Communist Party in Jiangsu Province and the provincial people's government conscientiously analyzed the situation of raising hogs and live hog production throughout the province at the province-wide farm village work conference and the province-wide agricultural conference, and they established several measures to stabilize and develop live hog production aimed at the new situation and the new problems that have emerged in live hog production.

--The policies of assigned raising, assigned procurement and rewards for sale of live hogs were implemented. The assigned procurement task and the tasks of procuring food grains, cotton, oil were simultaneously issued, and they were implemented at each level in the counties and communes. The commercial departments signed contracts with production teams and commune members.

--The collective arranged for the feed grains needed by commune members to raise hogs. The production team allocated and kept the feed grains uniformly and distributed them uniformly. Whoever raised hogs received feed grains.

--Each locality implemented some economic subsidies according to the actual situation. For example, some production teams subsidized 1 jiao or one work point for selling 1 jin of fattened pork. In other cases, the province subsidized 5 jiao, and the county, the commune and the brigade each subsidized 5 jiao for each piglet born by a sow of the collective.

9296
CSO: 4007/366

WORK ON ROOT NODULE BACTERIAL MANURE HIGHLIGHTED

Beijing GUANGMING RIBAO in Chinese 21 Apr 82 p 2

[Article by Wang Desheng [3769 1795 3932]: "Effectiveness Outstanding in Research and Promotion of Root Nodule Bacteria Bacterial Manure by Liaoning Provincial Academy of Agricultural Science's Institute of Pedology and Fertilizer Assistant Researcher, Ma Linxiang [7456 7792 4382]"]

[Text] For 4 consecutive years, Ma Linxiang, assistant researcher in the Institute of Pedology and Fertilizer of the Liaoning Provincial Academy of Agricultural Sciences has carried on the study and promotion of soybean and peanut root nodule bacteria bacterial fertilizer, winning outstanding results.

Back in 1966, Ma Linxiang began the study of root nodule bacteria bacterial fertilizer for pulses and other crops, including soybeans, peanuts, peas and clover. Through arduous and intensive research, he was able to painstakingly sift from among 33 root nodule bacterial strains five highly effective bacterial strains that were suited to different regions, different soils, different crops, and different varieties in Liaoning Province. In December 1981, these underwent appraisal and approval by leadership units concerned in the province, and by national experts in the same field who agreed that this scientific research accomplishment met rather advanced domestic standards. Now it has been provided to four root nodule bacteria preparation plants inside and outside the province as fine variety bacterial strains. Ma Linxiang gave up a great many holidays and leave periods to go into individual cities (prefectures), counties (regions), communes (farms), and brigades. He traversed the 44 bacterial manure cooperative network sites all over Liaoning Province, both conducting investigation and research and carrying out technical promotion, and in the cities and counties of Shenyang, Jinzhou, Heishan, Xinjin, and Benqi, he gave speeches on eight different occasions to technical training classes, experience exchange meetings, and academic discussion meetings. He also trained more than 600 mainstay cadres for the promotion of bacterial fertilizer. Additionally, he wrote, in cooperation with others, 11 academic treatises and scientific materials totaling 35,000 words, which have played an active role in guiding the promotion and application of soybean and peanut root nodule bacteria bacterial manure.

Use of root nodule bacteria bacterial manure on soybeans and peanuts is characterized by low cost, high benefits, quick results, and great effectiveness, and it has been well received everywhere. Costs per mu are only 0.44 yuan, but net earnings obtained can be as high as more than 10 yuan. Not only does it improve protein content, but effectiveness in increasing yields is outstanding. In 1979, root nodule bacteria bacterial manure was used on only 34.5 mu of pulses and peanuts in Liaoning Province. In 1981, this suddenly increased to 900,000 mu for increases in soybean yields averaging 29.9 jin per mu (a 10.5 percent increase), and an increase in peanut yields of 37.6 jin (a 9.8 percent increase). Increases in output of soybeans and peanuts totaled 29 million jin, and net earnings of about 9.4 million yuan were obtained.

In recognition of this outstanding accomplishment in this bacterial manure research and promotion work, Ma Linxiang received a commendation from the Shenyang Municipal Microbiology Society in 1980, and in 1981 the Liaoning Provincial Academy of Agricultural Sciences designated him an advanced worker.

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BRIEFS

NINGXIA RICE PRODUCTION--The Ningxia Huang He diversion irrigation area grows rice on 700,000 mu and is an old rice-growing area. Ever since the 1970's, all levels of farm technique promotion units, and research and education units in the irrigation area have cooperated closely, using various kinds of methods in vigorous promotion of newest research results. They have also summarized and upgraded traditional farming techniques of the peasant masses such as selection of fine varieties, beginning sowing in good time, culturing of sturdy seedlings, and use of chemicals to get rid of weeds. This has brought about steady increases in rice production levels and made possible consistently high rice yields over a wide area. In the 1970's, yields were only 616.7 jin per mu, but reached 975 jin per mu in 1981 for an output totaling 698.55 million jin, an all-time high for the irrigation area. In addition, five counties had rice yields of more than 1,000 jin per mu. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

WHEAT FIELD MANAGEMENT STRENGTHENED

Beijing RENMIN RIBAO in Chinese 10 Apr 82 p 2

[Article: "Localities in Shaanxi Strengthen Management of Wheat Fields, Over 24 Million Mu of Wheat Generally Grow Well"]

[Text] Cadres and commune members of the localities in Shaanxi province have actively strengthened management of wheat fields, intensified spring hoeing, raking and sidedressing, and irrigation. At present, the growth trend of over 24 million mu of wheat throughout the province is generally better than past years.

During autumn planting last year, the localities in Shaanxi paid attention to economic crops and suitably increased the planting of food grains crops. This year, the total area of wheat throughout the province has been increased by 890,000 mu over the previous year.

To seize bumper harvest of wheat this year, Shaanxi Province has emphasized two tasks. One is the implementation of the agricultural production responsibility system. It has mobilized the productive enthusiasm of cadres and the masses. The second is paying attention to scientific management of wheat. Since the beginning of this year, the Provincial Chinese Communist Party Committee of Shaanxi Province and the provincial people's government have organized experts and professors of Wugong Agricultural Science Research Center twice to go deeply into the fields to inspect the growth of wheat, and they have proposed measures for management of the wheat fields. Each locality and county has also conducted widespread technical training of cadres, commune members and scientific and technical personnel, and strengthened technical guidance in field management. At present, the whole province has already irrigated 5.47 million mu of wheat fields in spring, an increase of over 1 million mu over the same period last year, and spring hoeing and raking have also progressed more rapidly than last year. Spring application of fertilizers was also grasped more tightly. The area sidedressed reached more than 10 million mu. Now, wheat in the main wheat producing region of the Guanzhong Plain has already germinated and jointed. Because sowing was timely and management was refined, the growth trend of more than 11 million mu of dryland wheat throughout the province is prosperous. The foundation in sowing the wheat fields in the irrigated area of 10 million mu was poor, but management was in time and the growth trend is improving.

9296
CSO: 4007/366

USE OF AGRICULTURAL ZONING TO PLAN FARM MECHANIZATION DISCUSSED

Xian SHAANXI RIBAO in Chinese 15 Feb 82 p 1

[Article by Correspondent Wang Yougen [3769 0645 2704] and Reporter Hu Meiyu [5170 5019 1342]: "Ankang Prefecture Farm Machinery Zoning Pilot Project-Wins Good Results"]

[Text] Ankang Prefecture's Farm Machinery Bureau has devoted serious attention to farm machinery research, and has actively launched zoning work on mechanization for agriculture and for economic diversification to win good initial results. Their experiences in the Pingli County pilot project farm mechanization zoning research have received serious attention from higher authorities and units concerned.

For many years in the process of developing farm machinery in Ankang Prefecture, because zoning work did not keep pace, the purchase and promotion of farm machinery lacked scientific basis, and contained a certain element of blindness. This has led to many farm machines now being "dead in a shed," and some have been scrapped, causing waste, while agricultural and economically diversified production and processing urgently in need of farm machinery has had to rely on hand operations. As a result production has developed slowly, and the contradiction of agriculture and sideline occupations competing for labor has gone unsolved for a long period of time. Following the Third Plenary Session [of the 11th Party Central Committee], the Ankang Prefecture farm machinery system conscientiously summarized this lesson of experience, and recognized the important role of farm machinery zoning work in development of farm machinery endeavors. In November 1979, the Prefecture farm machinery bureau organized manpower to begin work on the Pingli County pilot project on farm mechanization zoning. First they went through a large amount of original materials to make a major investigation and analysis of natural conditions in the county with a close bearing on farm mechanization, and of socio-economic conditions and the agricultural production situation, after which they divided the entire county into three mechanization districts on the basis of different characteristics, and carried out exploratory studies on each of them. In the course of explorations, they conducted discussions about the emphasis, methods, and steps to be taken in agricultural mechanization in the short term and over the long term in each mechanization area, and they worked out a system of complete sets of farm implements for use in the fileds, on farms, for plant protection, for hauling, for drying, for irrigation and drainage, for the capital construction of farmland, for economically diversified production, and for the processing of agricultural sideline products. They also conducted special discussions about problems in the mechanization of tea, wood fungus, raw lacquer, and medicinal herb, which are the four staple native products. After the zoning work unit had worked for more than 5 months, it came up with a comprehensive zoning of farm mechanization in Pingli County, prepared a farm machinery comprehensive zoning map and 12 factorial maps, completed 27 different kinds of pertinent data and statistical tables, and wrote four special articles.

Results of zoning research provided a scientific basis for the county's agricultural mechanization, pointed the way to correct development, and provided new items for research in development of farm machinery. Following an interrelated program of zoning, planning, and implementation, some agricultural and economically diversified production and processing experiments have been conducted on the basis of zoning requirements, and the county farm machinery company has readjusted its farm machinery purchase and sales programs on the basis of zoning requirements.

9432
CSO: 4007/289

SHAANXI

FLOOD DAMAGE REPAIR, WATER FACILITIES IMPROVEMENT REPORTED

Xian SHAANXI RIBAO in Chinese 5 Feb 82 p 1

[Article by Qin Shui [4440 3055]: "Heartening Achievements in Farmland Water Conservancy Construction in Shaanxi Province Last Winter"]

[Text] Last Winter farmland water conservancy construction in Shaanxi Province reversed a situation of continuous decline during the past several years to make new progress. Statistics from departments concerned show an increase by more than 100,000 mu in the effectively irrigated area, the leveling of 310,000 mu of land in the irrigated area, the building of 100,000 mu of fields from which a harvest can be assured despite drought or waterlogging, and the new building of 128,000 mu of "four fields," all of which was greater than during the winter of 1980.

Reasons for these achievements were, first of all, diligent strengthening of all levels of leadership. All prefectures (or municipalities) and counties summarized the lessons of experience of previous years, eliminated the effects of "leftism" from farmland water conservancy construction, and unified their ideological perceptions. In late fall and early winter, they made specific deployments. In Shanluo Prefecture, mobilization was done level by level from the prefecture down to production teams. Numerous county and commune leadership comrades went down to the grassroots to give on-site guidance, and to work together with the masses. Second, cadres and the masses in Hanzhong Prefecture and in central Shaanxi learned a lesson from the particularly severe flood, and realized that a good job of farmland water conservancy construction is one of the major elements in improving ability to cambat disasters. After summarizing the lessons of experience, they set about repairing the water damaged projects with great zeal. Hanzhong Prefecture began work to restore water-damaged projects at more than 6,800 sites, finishing the job on more than 2,300 of them. They restored 136,000 mu of water-damaged farmland. Irrigation has been restroed to 15 of the provinces 18 irrigation districts larger than 10,000 mu. Baoji municipality started work on 640 of them. It restored an irrigation area of 630,000 mu, and irrigated 310,000 mu more than during the previous year. Third was fairly complete arousal of the masses. In Qianyang County last winter, 80 percent of the production brigades, and 65 percent of the production teams began to repair fields and level the land. Thirty percent of the workforce in the county got underway on 5,900 mu, completing work on 4,900 mu. Last year a total of 580,000 mu in the irrigated areas of the province were leveled, more than half of it during the winter season. Fourth, institution of agricultural production responsibility systems played an advancing role. In all places in which various forms of responsibility systems had been put into effect early and well, farmland water conservancy construction was universally well done. After Dingbian County instituted a "double contracting" responsibility system, it vigorously developed construction of small wetland gardens served mostly by dug wells and wells with waterwheels, overfulfilling twofold its assigned expansion of the effectively irrigated area. In the five gravity-flow irrigation areas, 35 pumping stations, and more than 1,000 wells in the county, Huayin County established management responsibility systems that improved benefits from existing water conservancy facilities.

9432
CSO: 4007/289

MEANS OF MOTIVATING WORK CONTRACTORS TO IMPROVE FIELDS DISCUSSED

Xian SHAANXI RIBAO in Chinese 3 Feb 82 p 1

[Article by Yu Yan [7625 7159]: "Farmland Capital Construction Achievements Great, Quality High and Pace Fast. Shimen District CCP Committee in Luonan County Studies New Situation and Uses New Methods To Solve New Problems"]

[Text] The Shimen District CCP Committee in Luonan County has studied the new situation and adopted new methods to break the low-ebb situation in which farmland capital construction has languished since the institution of various responsibility systems. In November 1981 alone, newly built basic farmland amounted to 2,141 mu, more than double the amount required by the county, and more than 3 times as much as was done in 1978 when the most field building in recent years was done. Plot by plot measurement and examination preliminary to acceptance shows quality to be very good, investment small, and the pace fast.

An overwhelming majority of fields in this district are in the mountains, and most production teams practice the system of responsibility wherein peasant households assume full responsibility for task completion. So how is the capital construction of farmlands to be done? In the course of survey, the district CCP committee learned that following assignment of responsibility for task completion to peasant households, commune member needs for the building of fields was not less but more urgent. Peasants simply feared that the responsibility system would not endure, so they did no real work on the land. On the basis of these findings, the district CCP committee made a new regulation, namely, that in the case of newly built land resources, fixed output quotas would not change, quotas to be surrendered to higher authorities would not change, and the portion of greater earnings resulting from increased output would revert entirely to the producers. Once a form of a system of responsibility became established, when readjustment was necessary for individual plots that had been contracted for, the production team would pay just compensation for capital construction to whomever had renovated the land. In addition, it roused cadres and party members to act at once to take the lead in construction. This allayed the masses' concern. Commune members said, "The land belongs to the production team, but if we grow more grain on it, it is ours, so it is better to fix it up a little." Very quickly a bustling situation in which every household in the district was engaged in a project occurred, with people vying with each other to improve the land.

In the course of the survey, the Shimen District CCP Committee also discovered that formerly during the "mass competitions," most of the land that was improved was large plots, while quite a few odd bits and pieces and marginal, infertile land was virtually forgotten for many years, quite a bit of it becoming wasteland. After the practice of assignment of responsibility of peasant households for task completion, virtually every household had some of this kind of land for which the potential was very great. Proceeding from this reality, the district CCP committee stipulated that current farmland capital construction projects should be mostly on small parcels, and the form of organization principally households. In addition, the district's communes came up with 11 projects with great potential for increasing output. After unified planning was done, commune and brigade cadres went to every household, assigning tasks household by household, assigning plots, and stipulating quality and time for completion, providing for action by every household under a unified plan. The Zhangwan No 1 Production Team had an 0.3 mu plot of slopeland, which the production team had considered renovating for several years but feared the work required would not be worthwhile. This year after commune member Song Zhenmin [1345 2182 3046] contracted to farm it, he fixed up an area 8 meters long by 4 meters high by 1 meter wide to turn the slope into a field with consistent yields.

In view of the new situation of numerous small, scattered projects following assignment of responsibility for task completion to peasant households, the district CCP committee was particularly attentive to change in its work style to do a solid job. It also instituted a system of commensurate rewards and penalties for cadres and commune members. After each commune and brigade assigned tasks household by household on the basis of production requirements and capabilities, it had each production team send cadres to measure and check, plot by plot, the land that each household had renovated according to unified standards prior to acceptance, giving rewards for those that had been improved beyond standards, and fining those whose improvements fell below standards. It instituted corresponding rewards and penalties for the cadres in each production brigade responsible to the state for the contract. Hongyangou Production Brigade was responsible for improving 33 mu, but when a survey was made in midcourse, less than 14 mu had been done. The cadres responsible for the brigade were so upset they could not get a good night's sleep, and before dawn they went to each household to do their jobs. As a result, a total of 36 mu was completed. More wonderful was that in each commune several commune member households worked together to improve the field in a new development. For the contiguous fields they had contracted to work, they did unified planning and had unified requirements; each family working separately to treat the fields as a single tract, with very good results.

9432
CSO: 4007/240

ESSENTIALS OF WINTER WHEAT, RAPE CARE OUTLINED

Xian SHAANXI RIBAO in Chinese 31 Jan 82 p 1

[Article by Science Education Department and Production Department, Provincial Agricultural Commission: "Use Scientific Attitude for Good Spring Care to Win Bumper Harvests of Summer Grain and Oil-Bearing Crops. Provincial Agricultural Experts Make Suggestions About Springtime Field Care of Wheat and Rape"]

> [Text] Editor's Note: Winning a bumper harvest in summer grain and oil-bearing crops is the main task for this year's agricultural production. Simultaneous with stabilizing and perfecting systems of responsibility for agricultural production, all prefectures should strengthen leadership for springtime field care of wheat and rape, make the most of the role of scientific and technical personnel, and use pertinent management techniques. If the time for field care is not to be lost, it must be given strict attention. Ever since the beginning of winter, the province has had but scant rain and snow, so a high degree of serious attention must be given to guarding against and combating drought.

On the eve of the lunar new year, several of the province's farm experts wrote letters to the Agricultural Commission putting forward suggestions about field care of spring wheat and rape. The Provincial Agricultural Commission felt these suggestions to be valuable and worthy of consideration by all jurisdictions.

In his letter, Provincial Academy of Farming and Forestry assistant research fellow and wheat expert, Gong Rende [7895 0088 1795] said that from the looks of wheat growth in the Yangling region of Wugong County, the major contradiction at the present time is still insufficient accumulated temperatures, which means small and weak seedlings. He pointed out that springtime wheatfield care required attention to five technical measures as follows: (1) Early harrowing and hoeing in spring to promote early development of seedlings so that spring growth makes up for winter weakness. Spring harrowing and hoeing helps raise ground temperatures, preserves soil moisture and prevents drying out, and promotes root tillering for very noticeable results in these regards. These actions were taken too late in previous years, usually after the lunar new year or even after the 15th day of the first lunar month, between 10 and 20 days later that actually required. This year there should be early mobilization, early arrangements and early action. (2) Top dressings of fertilizer in early spring. On most large areas, fertilization is still insufficent, and early topdressings of fertilizers to stimulate tillering and increase in the number of spikes, increasing by between 30,000 and 50,000 the number of spikes per mu is entirely possible. While the soil is moist, fertilizer should be applied early and deeply. In some high yield areas, the quantity of basic fertilizer and winter topdressings has already been very great, so the soil is by no means lacking in fertility, in which case there is no need for topdressings in early spring. (3) Early spring irrigation should be done. Generally speaking, early spring irrigation should be promoted in central regions of Shaanxi. This is because the irrigated area's fertility foundation has been remarkably increased, and fertilization with large quantities of chemical fertilizer can guard against defertilization. However, early spring irrigation still has to be prudently handled, and particular care must be taken in some very infertile places. However, if there was no irrigation and scant rain or snow during winter, and loose soil is very thick on the surface of the ground at the time of lunar new year, aridity being rather obvious, irrigation should be done. Irrigation should be done in concert with topdressings of fertilizer, and after irrigation has been completed the hardened surface of the soil should be broken up. If there is moisture in the soil at the time of thawing, spring irrigation should be delayed for as long as possible. In the west central region of Shaanxi Province, it may be delayed until early or mid-March. (4) In dryland wheatfields where rainfall was scant during the winter season and the soil is lifeless at the time of lunar new year, the loose layer of soil being very deep, compacting is needed to promote root development and greening up. If winter snows have been plentiful, and soil moisture is great at the time of thawing, harrowing should be done in early spring to maintain basic soil moisture and promote early greening up of the wheat. (5) This year wheat seedlings have been universally scanty, mostly because of little tillering, so action has to be taken to promote tillering and increase the number of spikes.

Provincial Farming and Forestry School teacher and wheat expert Zhang Qipeng [1728 0796 7720] said in his letter that wheatfield care should "promote early growth of weak seedlings, skillfully care for strong seedlings, and control vigorous seedlings so they do not produce runaway growth." He said that because of the large amount of overcast and rainy weather when the wheat was planted last fall, seeds were sown in muddy, watery wheatfields in some irrigation areas. This, plus the overly low temperatures of October and November, caused three problems for wheat growth. First was a tendency toward smallness of colonies. Second was a tendency toward weakness of individual plants. Third was insufficient balance. In irrigation areas, these conditions exist in about one-third of the fields. How can they be controlled? He noted that the job to be done in spring care of wheat is to assure numerous, large spikes and sturdy stems that do not lodge, the emphasis going to promotion of spikes and formation of spikes. He proposed four specific ways of doing this. First is a good job of loosening the soil and preserving soil moisture. Second is deep application of fertilizer. In view of wheat seedling growth characteristics, the thing to do is "fertilize early rather than late; fertilize deep rather than shallow; and fertilize when the soil is wet rather than when the soil is dry." As soon as the soil has thawed, while the soil is still moist, opportunity should be taken to fertilize in rows or in clusters. Third is prompt watering. In the case of fields lacking in soil moisture where seedlings are weak, when temperatures return to 3 to 5 degrees Centigrade, a light watering for greening up should be done, and after watering the soil should be loosened. Fourth is strengthening of leadership. When each county convenes its meeting of cadres from three levels, wheatfield care assignments should be made.

With respect to springtime care of rape, Provincial Farming and Forestry Institute assistant research fellow and rape expert Zhuang Shunqi [8369 7311 3825] said that the emphasis should be on maintenance of increased blanching of stems and increasing grain weight. As a practical matter, care techniques required were of three kinds. (1) Cultivation of the soil as soon as it is no longer frozen to maintain soil moisture, to loosen the soil, and to increase its temperature. Spring irrigation may be delayed until shoots begin to form for early development and growth. During the period of formation of shoots, cultivation and hilling around plants to support the roots should be done in combination. (2) During the period of greening up, early cultivation and greening-up fertilization should be done, a single fertilization sufficing. Depending on soil fertility about 30 jin per mu of standard nitrogenous fertilizer should be applied, together with 200 jin of grass and wood ashes (cooking pit ashes). The fertilizer and ashes should be applied in a ditch or put into the ground with a drill. (3) During springtime, prevention of insect pests should be done at least twice.

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STATUS QUO FOR EXISTING CROP PATTERNS SUPPORTED

Jinan DAZHONG RIBAO in Chinese 9 Mar 82 p 2

[Article by Commentator: "Equitable Arrangements for Growing of Crops Under Guidance of State Plans"]

[Text] Equitable arrangement of agricultural crop patterns under the guidance of state plans for coordinated development of production of all kinds within agriculture is a major aspect of national economic readjustment. Since the Third Plenary Session of the 11th Party Central Committee, throughout the province general methods have been adapted to local situations to make the most of advantages in readjustment of the internal structure of agriculture. The area of the province sown to economic crops in 1981 increased from somewhat more than 21 million mu in 1978 to somewhat more than 27 million mu, the proportion of total area sown expanding from 13.3 percent to 17.8 percent. For the major economic crops, cotton and peanuts, all-time highs were exceeded in both area planted and output. Readjustment of crop patterns has promoted all-around development of agriculture. Gross agricultural output value for the province as a whole has increased from 11.3 billion yuan in 1978 to more than 14 billion yuan in 1981, an increase of 23.9 percent. Development of economic crops has played an important role in assisting national construction, in expanding foreign trade and exports, in guaranteeing things needed by the military and used by civilians, and in increasing collective and commune member income. Analysis on the basis of natural conditions, population density, the present state of the proportion of cultivated land, and historical development, shows that the present agricultural crop patterns in Shandong Province are substantially equitable following several years of readjustment. Henceforth, except for a little readjustment still required by a minority of units, the overall planting area should be maintained substantially the way it now is, and the emphasis should go to improvement of yeilds per unit of area and to improving specie quality in an effort to improve economic benefits.

The agricultural economy is a major integral part of the entire national economy, and it is necessary to adhere to a program in which the planned economy is foremost, market regulation ancillary. During the previous stage, after emphasizing respect for the self-determination of production teams and instituting various forms of production responsibility systems, a situation developed at various places of "grow whatever is profitable" in planting and of "sell to whomever pays the msot money" in the sale of agricultural products, with no consideration of the country's need, no obedience to state plan guidance, and no honoring of contracts. This is a problem deserving of extremely close attention. It should be recognized that under the past "leftist" ideological guidance, we did not seek to adapt general methods to local situations, but practiced the growing of a single kind of crops, and elbowed economic crops aside, impairing the bringing into play of advantages everywhere and the earnings of the masses. This was a painful lesson. Marxism tells us that all things are mutually related and mutually restrictive, and that after a certain limit is exceeded, a change in the opposite direction begins. When truth goes a step too far, it becomes falsehood. This is likewise true for the readjustment of agricultural crop patterns. When it goes against natural laws to exceed objective needs and capabilities, it also gives rise to an opposite reaction. Unless we limit expansion of the economic crop area, a great reduction in the grainfield area will be created, and it will become impossible to assure the fundamental needs of the country and the people for grain, while at the same time development of certain economic crops may exceed the extent of growth of processing and transportation capacity creating overstocking and waste, a new proportional imbalance taking place that may even urgently require further readjustment. Such would be extremely disadvantageous for development of the agricultural economy and the economy of the entire country. Consequently, we must equitably arrange the growing of crops in accordance with requirements layed down in the state plan, diligently handling this matter as a strategic issue in development of the agricultural economy.

Shandong is a large province with a population of more than 70 million in which the problem of getting enough food to eat is a large one. Its grain production has yet to be solved, and the contradiction between production and demand is still rather prominent. Use of grain to meet the annual natural rate of population increase, for the livestock industry, for industry, and for other purposes requires year by year increases. Today, in a situation in which our material and technical situation is limited, when the damage done by natural disasters is fairly great, and when grain yields per unit of area cannot be greatly increased for the time being, it is all the more necessary to maintain a prudent attitude about decreasing the grain growing area. Of course, when we expand the economic crop area, the state allocates grain to us, but there are definite limits to this, after all. We must base ourselves on a foundation of self-sufficiency in grain within the province. This is the premise that we must first consider in readjustment of the agricultural crop patterns.

In the development of agriculture, it is necessary conscientiously to institute a policy of "positively no slackening of grain production while actively developing economic diversification." In planning the crops to be grown, all jurisdictions must submit to the situation as a whole; both making of the most of their own advantages, and proceeding from the situation as a whole; both considering how to make the most advantage of economic crops, and considering how to make the most advantage of economic crops. This year the grainfield area must first be stabilized at its present level with no further reductions, and efforts are to be made to increase yields per unit of area for both grain crops and economic crops for a steady improvement in levels of average per capita grain production. In the development of economic diversification, most important is use of barren slopes and wasteland beaches, the water surface of ponds, the shores of lakes and oceans, and the four besides [beside roads, streams, houses, and villages, and the 10 sides [small plots of land of many kinds] with no encroachment on grainfields. Wherever the land is suited to the growing of grain, the overall situation must be taken into consideration and the general interest recognized, active development of grain production being done in accordance with state plans in order to have the honor of providing the country commodity grain. Likewise in areas that grow predominantly cotton, it is necessary first to assure grain self-sufficiency for the agricultural population and to achieve complete self-sufficiency with all possible speed. Provided requisition grain procurement quotas have been fulfilled and task completion obligations have been fully met, other areas may develop economic crops as appropriate. In a situation in which the farflung rural villages have instituted various forms of production responsibility systems, and particularly in places and units that practice production responsibility systems of fixing output quotas on a household basis or fixing full responsibility for task completion on a household basis, more attention is required to solve this problem well. The way is to enhance state planning guidance for the growing of crops, using economic contracts to dovetail the production activities of the collective and of individual commune members with state plans, implementing state plans in each and every production unit, and peasant household, and on individual commune members, leading to peasant development of production on the basis of national needs, prevention and correction of blindness and lopsidedness in production, and preservation of mass enthusiasm for socialism.

In promoting various forms of production responsibility systems, we are developing systems of responsibility for the socialist rural economy. In respecting the self-determination of production teams, we are respecting self-determination to obey state plan guidance, the goal being arousal of collective and individual commune member enthusiasm. After long tempering in revolution and construction, the broad masses of commune members in the province wholeheartedly support socialism. It is subjectivist blind guidance and irrational burdens that they oppose, it positively is not the party's leadership and state plan guidance. All levels of CCP committees, the government, and grassroots cadres in the farflung rural villages must enthusiastically organize the commune member masses and, under guidance of the state plan, combine the needs of part of society and of society as a whole, correctly handle the interests of the country, the collective, and individuals, and equitably plan the crop growing area for greater development of grain, of economic crops and of economic diversification to win an all-around bumper harvest in agriculture this year.

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LOCAL PROCESSING OF FARM PRODUCTS ENCOURAGED

Jinan DAZHONG RIBAO in Chinese 7 Mar 82 p 1

[Article: "Devote Earnest Attention to Local Processing of Agricultural By-products"]

[Text] Basing oneself on local resources for energetic development of agricultural product processing industries, and taking the path of adding value several times from production to processing to marketing is a major way in which to increase the agricultural commodity rate, and to increase both collective and commune member income. All jurisdictions should treat this issue as an important matter and take it diligently in hand to produce results.

Ours is a vast province with superior natural conditions in which the potential is very great for use and development of resources. During the past several years in particular, rural economic diversification has developed rapidly, and economic crops such as cotton and oil-bearing crops have tremendously increased output to open broad prospects for development of agricultural products processing industries. Staples include grain, cotton, and oil, dry products [such as nuts, wood fungus, and lily buds] and fresh fruits, as well as aquatic products, all sorts of vegetables, and grasses and willow used for plaiting, etc. If these resources could be fully used for local processing, both the commodity utilization rate and their economic value could be increased and state, collective, and individual earnings increased, and difficulties in marketing, storing, and hauling products could be diminished for a genuinely fine situation of killing many birds with a single stone. However, some rural communes and brigades have yet to emancipate themselves from the past old rigamarole of single crop production and sale of agricultural raw materials, and the scope of their processing of agricultural products is very small. As a result many products that might be processed locally are hauled away from rural villages to cities as raw materials and then hauled back and sold in rural villages after processing. A trip out and a trip back both increases pressures on transportation, and increases costs, which is very much not worthwhile. Consequently, we must follow rational economic principles and vigorously develop commune and brigade agricultural product processing industries in a fundamental reversal of this irrational situation. It should be realized that for commune and brigade development of agricultural by-product processing industries the raw materials are ready made and the workforce abundant. Furthermore much is processing of products to eat, to wear, or to use, and generally speaking, investment required is small, results show quickly, and markets for products are good. Such industries can steadily develop over a long period of time and are superior in many ways to development of industries that rely solely on "looking for rice to put into the pot." Once the focus of production has been shifted in this direction, commune and brigade enterprise's production will have more vitality.

Operation of agricultural by-products processing industries requires adherence to the principle of solid, steady development. All jurisidctions will have to adapt general methods to local situations to carry out a resources survey and arrange priorities for products, proceed from existing realities, formulate development plans and implement measures, have a central focus and work step by step, with positively no rushing headlong into mass action or blindly blundering ahead. Planting and breeding industries, and economic diversification are the foundation for agricultural product processing; thus, formulation of plans must be closely combined with these two things, and particular attention should be given the building of planting and breeding bases using planting and breeding to protect processing and using processing to promote planting and breeding so that planting, breeding, and processing form a coherent whole for coordinated development. The foundation for rural agricultural products processing industries is presently weak and requires support from all sides. Industrial units can organize techniques and equipment to go to the countryside to work jointly with communes and brigades. All jurisidctions should act in accordance with state plans for supply to communes and brigades of various agricultural products for processing, setting suitable base procurement figures and proportion for amounts procured and amounts regained to achieve both assurance of fulfillment of state requisition procurement and quota procurement tasks, and take care of commune and brigade requirements for the development of processing industries. Attention should be given the training of technical forces for steady improvement in quality of agricultural product processing. In addition, as production develops, efforts should be made to open circulation channels and do a good jop of supply and marketing to impel commune and brigade enterprises to steadily walk the path of a combination of planting, breeding, and processing, carrying on production, supply, and marketing as a coherent whole to win greater economic benefits.

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EFFORTS CONTINUED TO FIND, STORE WATER DURING PROTRACTED DROUGHT

Jinan DAZHONG RIBAO in Chinese 9 Mar 82 p 2

[Article by Chun Pu [2504 0944], Tsng Nian [0681 1628], Lin Qi [2651 3305] and Xi Xiang [3556 4382]: "Store More Water; Use Water Well, and Expand Irrigated Area. Weifang Prefecture Stirs the Masses to Combat Drought and Protect a Bumper Harvest"]

[Text] Weifang Prefecture's 250,000 people have pitched in to use every means possible to tap water resources to combat drought and protect the wheat to win a bumper harvest. At the present time work has been completed on 4,618 of the prefecture's 6,823 water conservation projects on which work had been started. Newly sunk wells number 1,472, increasing and improving an irrigated area of 700,000 mu.

For the past several years Weifang Prefecture has had continuous drought. Since January this year, rainfall has been 46 percent less than during the same period in most years. Analysis of measurements of soil moisture show a drought area covering 8 million mu including 3 million mu of wheatfields. In order to triumph over the drought, since last year, prefecture and county leadership organizations have organized more than 10,000 people into work teams to go everywhere to arouse the masses to use every available means to tap water sources. Many counties and communes have organized forces to dam places along rivers or cut off the flow of phreatic water, directing the water to replenish sources. They have built a group of rudimentary water pumping stations, using multiple level water raising methods to make maximum use of both the visible and the phreatic water in river beds. Places that cannot be watered for the time being are cycling use of water. They first raise the water to fill ponds at the bends of streams or water pits by way of preparing sufficient water sources for further watering of the wheat or for doing spring sowing. Statistics from Yidu, Zhucheng, Anqiu, and Linju counties show that this method is being used to store more than 10 million cubic meters of water. On plains areas where wells can be sunk, special teams were organized to sink pump wells. In coastal, mountain and hill, and underground red callys areas, large mouthed wells continue to be sunk, and rectangular pools, gallery wells, and small pressure wells are being dug. Recently Pingdu County organized more than 30,000 workers to begin work on more than 600 small water conservancy projects of various kinds requiring little investment of funds for quick results. Now 450 of them have been completed, more than 50 pump wells dug, and an irrigated area of more than 60,000 mu newly added or improved. Gaomi County has used regulations at every level to formulate and implement a bonus policy for digging for water. In less than 1 month following the lunar new year, 1,000 newly dug pump wells or large mouth wells were opened in the county, pumping stations were built at 11 sites, and rivers were dammed or diverted at 68 places. In addition, while digging for water and storing water, all jurisdictions have taken active measures for the conservation and scientific use of water.

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COTTON PLANTING AREA STABILITY, SINGLE CROP INCREASE EMPHASIZED

Beijing RENMIN RIBAO in Chinese 8 Apr 82 p 2

[Article: "Correctly Handle the Relationship Between Food Grains and Cotton, Implement This Year's Cotton Planting Plan; Shangdong Emphasizes Stabilizing the Area To Increase Unit Yield"]

[Text] Report by NEW CHINA NEWS reporter Jia Jianzhou [6328 1696 5297]: While implementing this year's cotton planting plan, the Provincial Committee of the Chinese Communist Party in Shandong and the provincial people's government repeatedly emphasized that each locality must correctly handle the relationship between food grains and cotton, stabilize the area, place major efforts on unit yield, increase total yield, and seize double bumper harvests of food grains and cotton.

After the Third Plenary Session, each major cotton producing area in Shandong Province started out by developing the natural superiority of the locality, actively and steadily readjusted the proportion of food grains and cotton, expanded the area of cotton fields, and enabled the total yield of cotton to surpass 10 million dan consecutively for 2 years. This served importantly to guarantee that the nation's cotton production will increase in yield. The cotton farmers have also realized more and more economic benefits. This year, the enthusiasm in planting cotton by each cotton producing region in Shandong Province is very strong. The provincial committee and the provincial government believe that under the present situation under which the proportion of the areas of food grains and cotton are basically rational, future attention should be paid to stabilizing the area of cotton fields and to exert major efforts in unit yield, in increasing total yield and in seizing overall bumper harvests. In particular, major efforts should be in increasing the unit area yield.

Data provided by concerned departments indicate that the potential to increase the unit yield of cotton in Shandong Province is great. Last year, the average per mu yield of 30 counties was lower than the province-wide average. They had over 6 million mu of cotton fields. If the per mu yield of these cotton fields could be raised to last year's average for the whole province, total yield could be increased by more than 1.2 million dan. In addition, low yielding cotton fields could produce a large-scale increase, and even high yielding cotton fields could continue to increase their yields. The counties of Gaotang, Pingyuan, Ningjin, Jinxiang increased their per mu yield by more than 10 jin on the basis of producing a per mu yield of 100 min last year. The provincial committee and the provincial government believe that now, the whole province has already acquired the favorable conditions to increase the unit yield of cotton. For example, the party's policies have been profoundly accepted by the people. The production responsibility system has been further perfected, and the productive enthusiasm of the cotton farmers is high. Capital construction of farmland has had new development. The ability to resist disasters has been further strengthened. Fertilizers, farm chemicals, machinery and capital have all been increased from past years. The material foundation is more abundant, etc. Therefore, placing emphasis on increasing unit yield of cotton production is consistent with the actual situation in the production of cotton in Shandong Province. At the same time, the provincial committee has requested each locality to greatly increase the unit yield of food grains so that there will be more counties, communes and brigades producing double increased yields of cotton and food grains.

Recently, the Provincial Committee of the Chinese Communist Party of Shandong and the provincial people's government held a province-wide cotton production conference in Ling County. The conference discussed problems concerning ways to increase the unit yield of cotton and proposed corresponding measures to increase yield.

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EXHORTATION ISSUED ON SIGNING OF RURAL FARM CONTRACTS

Chengdu SICHUAN RIBAO in Chinese 5 Apr 82 p 1

[Article by Commentator: "Take Firmly in Hand the Signing of Rural Economic Contracts"]

[Text] Right now all jurisdictions are in process of implementing the Central Committee documents on rural work and signing rural economic contracts. This is extremely important for assuring this year's growth of agricultural production and implementation of various plans, in carrying out policies of "concurrent concern for the three" [the country, the collective, and individuals], and in perfecting production responsibility systems.

Generally speaking the signing of economic contracts in the province's rural villages has been done better this year than last. One obvious characteristic has been that large numbers of leadership comrades in the province, prefectures, and counties have personally taken charge. Not only did they start early, act quickly, and take matters firmly in hand, but work was also solidly done. Attention should be directed to those places where progress has been slow and cases in which many contracts, particularly this year's production contract agreements, have yet to be signed. Though some have been signed, they are fairly careless or even simply a mere formality. The main reason for this is that some leadership comrades lack sufficient understanding of the importance of signing contracts, do not devote sufficient attention to them, and do not come to grips with the matter. In some places it is because some genuine problems have not been promptly handled well. Some commune members onesidedly emphasize their own benefit without being very much concerned about benefits to the country and to the collective.

Contracts are an effective assurance that state economic plans will be carried out. They are like a bond that links together the various individual links of production, exchange, and distribution to the welfare of the country, the collective, and individuals. Inasmuch as most rural villages in Sichuan Province have instituted "double contract" systems of responsibility [fixing output quotas based on households with peasant households assuming full responsibility for task completion], it is necessary to assure that state plans be carried out, that leadership of agricultural production be planned, and that there be proportional development. The most effective way of doing this is to promote contracts. Consequently, the signing of rural conomic contracts positively is not a small matter that can be done or not; rather it is an imperative matter to which efforts must be devoted and which must be taken firmly in hand. All levels of leadership comrades must have a clear understanding of this point.

The contracts that must be signed in rural villages have many aspects. The thing that is most important right now is to make sure that production contract agreements are signed as soon as possible between production teams and commune members so that contracts can be used, in advance of spring plowing, to implement this year's agricultural production plans in order to assure that production will be done in accordance with plans. After this has been done, state procurement units concerned should promptly organize to sign agricultural and commercial agreements with production teams to give reality to agricultural product procurement plans handed down by the state. No matter whether production procurement contract agreements or agricultural-commercial agreements, both should be signed in accordance with economic contract laws and pertinent provincial regulations so that their contents will be complete and procedures detailed as an aid both to conducting checks and honoring them.

A good job of signing contracts requires that work be done well and genuine problems conscientiously resolved. Further propaganda and mobilization work has to be done to increase the understanding of the broad masses of cadres and people. Ideological and political work among the peasants has to be enhanced to educate and lead them to correctly handle the three relationships to consciously sign and carry out agreements, and to strive to do their best to discharge obligations. The contracts' economic norms will be set largely in accordance with state plans, but the masses should be aroused to carry out full discussion and consultation so that the contracts will be realistic, positive and reliable, and allow for unforseen circumstances. Withholdings by the collective should be made on the basis of what local economic development permits. Tax payments are to be assured of fulfillment, and cadre allowances, care of the dependents of martyrs and military personnel as well as of households enjoying the five guarantees [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses] should be guaranteed. Contracts are to be signed on a foundation of strict attention to the perfection of responsibility systems, and the signing of contracts should be used to improve and stabilize responsibility systems.

The all-around promotion of economic contract systems in rural villages is a major reform in administration and management that touches on many matters. It has strong policy overtones and requires a lot of work. But since experience is lacking, right now strengthening of concrete leadership is urgently needed. In communes and brigades in which progress has been relatively slow, in particular, leadership comrades must go forward to help promptly study and solve existing problems, signing contracts as rapidly as possible. In places that have already signed contracts, continued checking and examinations must be done; omissions must be filled and revisions made so that the contracts do not become perfunctory.

Right now the busy season of spring farming is at hand, yet the work of signing contracts has not been completed. All jurisdictions must closely coordinate with spring farming and production by intensifying work and strive to continue signing rural economic contracts in advance of the extremely busy spring farming season to assure fulfillment of this year's agricultural production plans.

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INDUCEMENTS PROVIDED TO ENCOURAGE SOW PRODUCTION

Chengdu SICHAUN RIBAO in Chinese 8 Apr 82 p 2

[Article by Jin Yansuo [6855 1693 2747]: "Give Earnest Attention to the Raising of Sows"]

[Text] For steady and continuous development of hog raising, a certain number of sows is required to guarantee ample breeding stock. Statistics from units concerned show that as compared with the same period during the previous year, in 1981 a six percent decline occurred in the number of sows in the province. Today the ratio of sows to hogs in inventory has declined from 1981's 6.75 percent to 6.5 percent. Particularly deserving of attention is that in key commodity hog producing areas, the decline in the number of sows has been even more conspicuous. Unless vigorous action is taken at once to change this situation, inevitably Sichuan Province's hog raising will be seriously impaired. It will not hurt to do some figuring of accounts here.

The first account. At the beginning of this year, hogs in inventory in Sichuan Province numbered 50.23 million. According to forecasts from units concerned, on the basis of the number of hogs removed from inventory in 1981, the number of hogs that will be removed from inventory in 1982 will number about 33 million. In order to have the current 50 million head in inventory at the end of this year, a corresponding number of shoats will have to be added to the stys.

The second account. Sichuan Province now has 3.26 million sows. On the basis of the 1981 shoat survival rate, it is estimated that during the present year, about 29.34 million shoats will be added to the hog population. Unless more sows are raised, by the end of the year the number of hogs in inventory in Sichuan Province will number only about 46.57 million, which will mean a 7.3 percent decline from the same period last year.

The third account. In order to maintain the hog population at the beginning of next year at its present size, the province as a whole will have to raise an additional 400,000 to 500,000 sows. To meet this requirement, the proportion of sows to hogs in inventory in the province as a whole will have to increase from the present 6.5 percent to about 7.5 percent, and be no lower than 7 percent.

From the above three accounts it can be clearly seen that action has to begin right now to give earnest attention to the growing of sows.

For many years two different enthusiasms have been brought into play in the raising of sows in Sichuan Province, namely both advocacy of collective raising and encouragement to individual commune members to raise them. However, in both collective raising and raising by private individuals there have been problems in economic benefits. After shoats born of sows that peasants have raised have been sold, the peasants want to be able to make up for the materials consumed and the living labor expended in raising the sows, and they want to have certain net earnings as well. If they do not, the peasants' enthusiasm for raising sows will be damaged. In order to encourage peasants to actively raise sows and to raise them well, the state has acted to make award sales of four jin of grain for every shoat. For every sow privately raised by a commune member, collectives have alloted between 1 and 2 fen of land for the growing of fodder. At the time of distribution of feed grains, a general 50 to 60 jin of feed grain is distributed for each sow, and 4 to 5 jin for each shoat. In figuring manure provided by hog growers and distribution of green feed, the standard for calculation is generally one sow equals two fat hogs. Thus, when market prices are normal, a commune member's economic benefits from the raising of sows are generally equal to the economic benefits from raising fattened hogs. Ever since 1980, as a result of "difficulty in selling hogs," shoats have been a drug on the market, and large numbers of sows in rural areas have been sterilized. Within the space of 2 years, sows decreased by about 1 million. Even though market prices for shoats went back up last year, the number of sows raised continued to decline. In order to have consistent raising of sows, methods that production teams use to regulate hog production cannot be weakened. The former series of methods used to encourage commune members to raise hogs (including sows) must be made an important part of the improvement and perfection of agricultural production responsibility systems, and should be revived and implemented as rapidly as possible.

In the revival and implementation of the series of methods used in the past to encourage commune members to do a good job of raising sows, general methods will have to be adapted to specific situations. In places practicing assignment of output quotas to teams, contracting jobs to be done in a certain period of time, and "four specializations with a single contract," both collective and individual raising has to continue to be advocated for the development of sow production, and appropriate increases should be made in the amount of feeding done where conditions permit. Either specialized households may feed and raise the hogs, or hogs may be collectively owned but privately raised. In cases in which individual commune members privately raise sows, production teams should adhere to formerly instituted methods of providing bonuses. Nanquan Commune in Chongqing Municipality used contracts with specialized households at its collectively owned hog raising farm, combining "breeding and raising." It held to feed grain withholdings for private sow raising, making award sales of 10 jin of grain withholdings for every live shoat, and this year the number of sows has begun to increase steadily.

Production teams practicing assignment of output quotas to individual able-bodied laborers, and fixing output quotas on a household basis should adhere to a system whereby withholding of feed grain and distribution of feed grain is done centrally by production teams. Feed grains divided up for the feeding of sows should not be allowed to fall below levels prior to the practice of fixing output quotas on a household basis. After Wan'an Commune in Shuangliu County instituted "double contracting" [fixing output quotas on a household basis and assigning full responsibility for task completion], it arranged for feed grain on the basis of the number of head raised in 1982, 60 jin of feed grain per hog being provided from feed grain withheld by production teams, and between 200 and 280 jin per sow (feed grain for shoats included) being provided. If no hogs were raised, the grain was returned to the production team. During this year the number of sows has increased throughout the commune.

In places practicing large scale assignment of responsibilities, hogs and land may be linked, a certain amount of land for the growing of fodder being assigned to commune members, depending on the number of sows they raise. In short, it is necessary to act on the basis of the new situation following institution of various forms of production responsibility systems to give tailored guidance, and to make arrangements production team by production team to reverse the present situation of continued decline in the sow population.

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PROVINCIAL STATE FARM ACHIEVEMENTS REVIEWED

Chengdu SICHUAN RIBAO in Chinese 5 Apr 82 p 1

[Article by State Farm and Land Reclamation Bureau: "Experiences Summarized and Achievements Carried Forward For Further Fine Operation of State Farms. Sichuan Province's State Farm Employees Triumphed Over Exceptionally Great Flood Disasters Last Year to Win Heartening Achievements in All Kinds of Production. They Are Determined to Increase Output This Year of More Commodities to Make a Greater Contribution to the Country"]

[Text] By summarizing experiences, commending the advanced, arousing the will to fight, determinedly carrying forward achievements, and making advances in the operation of enterprises, Sichuan Province's state farm and land reclamation system farm employees have increased output of commodities and have made greater contributions to the country.

Last year, Sichuan Province was stricken with exceptionally great flood disasters, which brought serious disaster to 46 farms causing almost 4 million yuan damage. In order to make up for losses caused by the floods, all farms diligently put into force a program of "taking one industry as the primary one, with economic diversification." While operating the primary industry well, on the basis of raw materials, manpower, land, and technical conditions each farm adapted general methods to local situations to launch economic diversification and industrial sideline production, and operated processing plants for tea, fruits, and dairy products. Industrial sideline occupation output value for the year as a whole amounted to 70 percent of gross output value from agriculture. In addition, in light of the new circumstances that have arisen in the operation of integrated agricultural, industrial, and commercial enterprises, and in enterprises jointly run by state farms and production teams, they conscientiously propagandized the party's programs and policies, promptly studied the new circumstances, and solved new problems. Not only did this bring about a consolidation of integrated enterprises, but also brought about an upgrading of quality as well. In order to arouse to the full the enthusiasm of staff and workers, each farm adapted general methods to local situations to establish various forms of responsibility systems. Some farms proceeded on the basis of "three fixeds and one reward" to try out the linking of output to teams or to individuals, output in excess of quotas being divided among them. Some farms tried out the calculation of bonuses (or compensation) on the basis of output, bonuses being given for output in excess of quotas and penalties levied for shortfalls. This directly linked earnings to staff and workers and to output and profits, and linked rights, responsibilities, and benefits to produce fine economic benefits. In addition, simultaneous with improvements in the workstyle of leaders and the carrying out of ideological and political work, each farm intensified scientific research work and the technical training of staff and workers to improve staff and workers' technical and management levels, thereby winning remarkable achievements in turning losses into profits through scientific farming and livestock raising. A comparison of 1981 with the year before shows that except for fruit output, which fell in an off year, output of major products including cow's milk, the rhizomes of Chinese goldthread (Coptis chinensis), and tea increased by between 2 and 11.8 percent. The number of yaks and sheep increased by 15.3 percent; gross output value of agriculture increased 34.2 percent; tax revenues increased 67.96 percent; and profits increased by 37.5 percent for all-time highs. Furthermore 31 advanced collectives appeared that had provided the country with large amounts of commodities, high profits, and had made great contributions. Included among them was the Huanglian Integrated Enterprise Company in Shizhu County, Jinyunshan Horticultural Farm in Chongqing Municipality, Liuli Dairy Farm in Chengdu Municipality, and Houshan Tea Farm in Shuyong County. Advanced individuals totaled 49, including He Huanzhou [0149 3562 0719], Liu Runxian [0491 3387 0341], Wang Meifu [3769 5019 4395] and Zhan Guifa [6124 6311 4099].

After having summarized experiences, staff and workers at farms in the provincial state farm and land reclamation system determined to conscientiously programs and policies for agricultural and land reclamation work, and to mobilize staff and workers to develop production through every available means to assure fulfillment and overfulfillment of this year's quotas for principal and sideline occupation production, and to provide the country with greater amounts of commodities. From leadership energies to workforce assignments, from use of funds to supply of materials, priority went to satisfying needs of agricultural production. In addition, economic diversification and processing industries were vigorously developed. Farms and all levels of management units should help integrated enterprises and enterprises run jointly by state farms and production teams to conscientiously summarize experiences for further consolidation and development. All enterprises are to strictly carry out the party's programs and policies to assure fulfillment of state requisition procurement tasks. All farms should further improve assignment of sole responsibility for financial matters, three fixed and one reward, and such various forms of production responsibility systems, properly handling the welfare of the country, of the farms, and of staff and workers, arouse staff and workers to actively improve their technical and management levels, and strive to run state farms well to make a new contribution to national socialist construction.

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MARKETS FOR FARM PRODUCTS; FARM PRODUCTS FOR MARKETS DISCUSSED

Chengdu SICHUAN RIBAO in Chinese 1 Feb 82 pp 1, 4

[Article: "One Hand on Production and the Other Hand on Circulation. Experiences of the Dazhu County CCP Committee in the Strengthening of Leadership of Finance and Trade Work"]

[Excerpts] In meeting new circumstances in rural economic development, the Dazhu County CCP Committee has diligently and intensively studied new problems in the circulation field, persevering in keeping one hand on production and the other hand on circulation. In 1981, the county's gross output of grain increased by 10.6 percent; gross earnings from agricultural sideline occupations increased 18.4 percent; and gross output value of industry increased 15 percent. Financial and trade work overfulfilled the plan for the year 56 days ahead of schedule. Up until 1978, county revenues were in the red, but as of 1981 the county had reserves of 1.6 million yuan.

Dazhu County's reliance on policies and science during the past several years has brought about rapid increase in the growth of agricultural production and a rise in the peasants standard of living. In order to further increase peasant earnings, the county CCP committee began with readjustment of agricultural production, directing production teams and peasants to develop economic diversification to increase commodity output. However, following development of economic diversification, frequently impediments in circulation channels made it difficult to sell certain goods, which impaired peasant desire to produce. Formerly some comrades did not attach sufficient importance to such problems, always supposing that if production could be kept up and goods were produced, circulation would naturally be all right. The new situation in development of a rural commodity economy has made county CCP committees realize the lopsidedness of such a point of view. Since 1979, the county CCP committee has repeatedly stressed both the need to realize that production determines circulation and that circulation reacts on production, and that under certain conditions, circulation may play a decisive role on some production. For example, as a result of the reduction in 1978 of procurement of burley tobacco and chilli peppers, which had enjoyed brisk sales, output plummeted the following year. As a result of the steady opening of markets for piemarker, procurement gave impetus to marketing, and marketing gave impetus to production, so output climbed year after year. The county CCP committee used these actual examples for repeated indoctrination of cadres at all echelons to show that in agriculture it is not enough just to work at agriculture, one has to enliven commerce as well.

The experience of Dazhu County's CCP Committee in giving attention to commodity circulation was, first of all, perseverance in the planned nature of the socialist economy and unremmitting indoctrination of the peasants in a deep love for socialism and obedience to state plans. Until such time as procurement of goods for the state plan has been fulfilled, there can be no dealing in any other channels. At the same time, provided the main channels can assure fulfillment of state procurement plans, flexible and accommodating methods may be used to develop multiple channel dealings to make full use of the supplemental role of market regulation to enliven circulation. Because it has carried out correct policies, for 4 consecutive years the county has overfulfilled state procurement plans for agricultural sideline goods. In August 1981, before the major producer of day lilies, Qingshui Prefecture, had fulfilled state procurement plans for day lilies, Miabo Commune and Brigade enterprises raised prices and bought preemptively. The county CCP committee charged the industrial and commercial executive management department with making a solemn investigation to recover the day lilies that had been bought to assure fulfillment of state procurement plans. In 1980, the county had a bumper harvest of citrus fruit, and after production teams had fulfilled requisition procurement quotas to the letter, a very big surplus remained. In recognition that citrus fruit is a perishable commodity that will rot if not promptly sold, thereby causing losses, the county CCP committee proposed dealing through multiple channels, sales being promoted both locally, and the fruit being hauled elsewhere for sale. This prevented the citrus from rotting and increased peasant earnings. In 1981 and the 2 previous years, great development occurred in rural hog production and hog procurement outpaced demand for a time. Proceeding with a desire to protect peasant enthusiasm for hog raising, the county CCP committee resolutely decided that the county food company should shoulder more of the peasants' hardships, and also began dealings through multiple channels, the 200,000 peasant households thereby each averaging sale of half a commodity hog. In 1981 the county removed 450,000 hogs from inventory and had an inventory on hand of 480,000 hogs, both of which were all-time highs.

In order that both agricultural production and economic diversification would meet market demand, the county CCP committee attached extraordinary importance to survey and study of market trends, promptly mastering market information. As a result of the practice during the past several years of a policy whereby the planned economy is dominant and market regulation supplementary, market conditions have changed greatly. The county CCP committee specially organized the finance and trade organization's various units to send people out to various places inside and outside the province to survey market needs, to strengthen market forecasting, and to provide data for the guidance of production. In 1978 when export of burley tobacco was slack and the county was preparing to cut back on production, a survey showed that in some parts of the country sales were brisk, so they revived development of burley. In 1981, not only did they sell all the burley in inventory but also concluded agreements with several tobacco plants in other provinces to sell them burley in 1982. For many years numerous places have reported shortages of nonstaples such as gluttinous rice, sesame seeds, and gaoliang. The county CCP committee told this news to production teams and peasants to encourage the peasants in economic diversification. As a result of 3 years of efforts, supplies of nonstaple grain and oil have gone from little to much. In 1981, quantity of gluttinous rice procurement rose from the 130,000 jin of 3 years previously to 2.49 million jin; quantity of sesame seed procurement rose from 10,000 jin to more than 250,000 jin; and quantity of gaoliang procurement rose from somewhat more than 800,000 jin to 10 million jin. From the increase in output of gaoliang alone, 6 million jin of spirits could be distilled, providing the state with 1.48 million yuan in increased revenues. Increases in outputs of nonstaple grains and oils also promoted development of the food industry, enlivened markets, and improved the livelihood of the people.

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BRIEFS

WATER STORAGE UP--Mianyang Prefecture has taken firmly in hand the restoration of projects destroyed by water, has enhanced project management, and has bolstered its ability to store and conserve water. At present, water storage in water conservancy projects of all kinds amount to 1.428 billion cubic meters, an increase in water storage of more than 80 million cubic meters over the same period last year and two percent more than plan, creating conditions for greater growing of paddy rice this year. As a result of several flood disasters last year, projects at 25,332 locations in the prefecture were destroyed and electromechanical equipment providing irrigation at 1,621 sites was destroyed. In order to repair and restore to operating the projects destroyed by flooding, since last fall, prefectures and counties (or municipalities) have worked to strengthen leadership, have sent personnel to sites to conduct inspections, have formed different categories of units, and have done overall planning for prompt organization of the masses to conduct rush repairs. Each county and municipality also focused on the new situation of promoting various forms of agricultural production responsibility systems, changing from the past practice of investing labor to investing funds. They apportioned labor according to the irrigation area and used cash to settle accounts, thereby hastening the pace of restoration of the projects damaged by floods and assuring project quality. During last winter and this spring, the prefecture worked at a total of 20,000 different sites, completing work at more than 14,000 of them. At the same time, all jurisdictions further strengthened and perfected water conservancy management responsibility systems, and adhere to centralized control of production teams over water, water being released by "a single source." They also equitably resolved compensation for personnel charged with releasing water, and satisfactorily handled the contradictions between "doubly contracted" fields [fields for which peasant households were responsible for both fixed output quotas and full task completion], and water stored in ponds and reservoirs. [Text] [Chengdu SICHUAN RIBAO in Chinese 4 Mar 82 p 3] 9432

RESTORED IRRIGATION PROJECTS--Projects destroyed by flood waters in Dujiangyan irrigation areas have been virtually all restored. During the exceptionally great floods of mid-July last year, projects at a total of 2,078 places in the Dujiangyan irrigation area were destroyed. After the flood, the broad masses of cadres, people and employees of management departments in the Dujiangyan irrigation area bent every effort to rush repairs on some of the urgently needed projects to assure the irrigation of spring-sown crops and water for industrial use. Beginning in mid-November last year, the large number of projects yet to be restored began to be repaired one after another. The Dujiangyan Management Bureau and subordinate management departments organized work teams to go into work areas to assist with the work. In a race against time, many civilian workers took no vacation at new year's time, and the projects proceeded very rapidly. Now, 1,803 projects in the Pingyuan irrigation area of Chengdu that had been destroyed have been fully restored, and restoration of the Mianyang, Longquanshan and Heilongtan irrigation areas in the hills has been largely completed. [Text] [Chengdu SICHUAN RIBAO in Chinese 4 Mar 82 p 3] 9432

CSO: 4007/385

BRIEFS

PLASTIC MULCH COTTON GROWING--In 1981, 50 farms in the Xinjiang state farm and land reclamation region used plastic mulch in growing cotton on 20,000 mu. Yields of ginned cotton averaged 160 jin per mu, double the average yield per mu in the reclamation area as a whole, for an increase in earnings of 1.2 million yuan. Two years of production experience have shown that use of plastic mulch in growing cotton makes full use of solar energy, improves the ecological environment of cottonfields, regulates the physical and chemical properties of the soil, promotes microbiological activity, can increase ground temperatures, conserve moisture, reduce damage from alkalinity and salinity and control weed growth, promote cotton growth and development, achieve advanced ripening, and increase output. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

YUNNAN

BRIEFS

TWO NEW RICE VARIETIES--Agronomist Deng Youcheng [6772 2589 2052], deputy director of the Chuxiong Yi Nationalist Autonomous Zhou in Yunnan Province, has bred two consistently high yielding fine rice varieties with yields of more than 1,000 jin per mu, "Chuxian No 1," and "Chuxian No 2." From the somewhat more than 13,000 mu of these varieties planted last year in this autonomous zhou, yields averaged more than 1,000 jin per mu and a maximum of 1,400 jin. [Text] [Lanzhou GANSU RIBAO in Chinese 22 Mar 82 p 3] 9432

CSO: 4007/384

IMPORTANCE OF EARLY RICE CROP UNDERLINED

Hangzhou ZHEJIANG RIBAO in Chinese 16 Mar 82 p 1

[Article: "Provincial CCP Committee Comrades in Charge Question Agriculture Experts on How to Make Full Use of the Role of Science and Technology in Grain Production. Experts Hope that Leaders on All Levels Will Attach Great Importance to the Required Grain Growing Area, Particularly the Early Rice Crop Area, Will Attach Great Importance to an All Around Linking of Measures to Form a Coherent Whole to Increase Output, and Will Take Them Firmly in Hand as Measures For Making Breakthroughs"]

[Text] Zhejiang Provincial CCP Committee secretary and deputy provincial governor, Chen Zuolin [7115 0155 7207] questioned agricultural experts on 13 March on how science and technology could be relied upon to win bumper grain harvests this year. Twenty experts from the Provincial Academy of Agricultural Sciences, Agricultural University, and the Provincial Department of Agriculture gathered together in the same room with comrades in charge at the Provincial CCP Committee where they spoke with fervor and assurance, putting forward quite a few good ideas and suggestions.

Also participating in the discussions were comrades in charge at the Provincial Science Commission, and the Provincial Agricultural Commission.

In a statement, the experiments noted that in Zhejiang Province with a large population relative to available land, grain production must be taken very very firmly in hand. Adaptation of general methods to local situations for the promotion of "a multiple crop system" and a series of corresponding farming techniques are major reasons for the province's steady increases in grain output, and it is necessary to persevere in doing things this way in future. Everyone acknowledged that even in the northern part of Zhejiang Province, where more than two crops can be grown but where the growing of three would be somewhat critical, through the readjustment of crop varieties and patterns, high yeilds from three crops could still be won.

The experts pointed out that in order to make the most of Zhejiang Province's advantages for grain production, it is particularly necessary to assure the early rice crop sowing area. This is because scientific analysis shows that 70 percent of rice output is formed following heading. The early rice crop heads in July, which is precisely the month in which solar radiation is greatest in the province, helping the buildup of material through photosynthesis. Therefore, the early rice crop has become Zhejiang's dominant crop. We must use all available means to grow well and grow sufficient early rice.

In the course of discussions, the experts raised a dissent to the view that "this year's grain production lacks the means for breakthroughs and that hopes for increased output are not great." They said that means for breakthroughs cannot exist every year; however, every production team has weak links in production. At the meeting, the experts enumerated numerous effective technical measures for overcoming these weak links. The deputy director of the Provincial Academy of Agricultural Sciences, Dong Shijun [5516 0013 6874], said that some people regard the summarization and promoting of some existing measures for increasing yields as so much "gleaning of sesame seeds," which they do not think much of. In actual fact numerous breakthrough results both domestically and in foreign countries have been obtained through an all around coherent linking of science and technology. If only we will take firmly in hand existing measures for increasing yields and give attention to all around application of their mutually complementary dialectic relationship, the "sesame seeds" can turn into "watermelons." Experts at the meeting unanimously acknowledged that attention to coherency in existing techniques can effectively overcome, one by one, the weak links in increasing agricultural output, and this is a breakthrough measure in itself for grain production in Zhejiang Province this year. It is hoped that leaders at all levels will fully recognize this, and conscientiously take it in hand.

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ATTENTION GIVEN TO FEED POLICIES IN HOG RAISING

Hangzhou ZHEJIANG RIBAO in Chinese 16 Mar 82 p 1

[Article by Provincial Government Investigation and Research Office, Provincial Agricultural Commission, and Provincial Finance Department Operated Investigation Unit: "After Contracting Work Tasks to Individual Households How Can Hog Raising Feed Policies Be Implemented?"]

> [Text] Editor's Note: In some of the communes and brigades in Quzhou Municipality that have instituted the contracting of work tasks to individual households, while further perfecting agricultural production responsibility systems, the work of instituting hog quota purchase tasks and hog raising feed policies in individual households has been given attention. A briefing is given here for the reference of all jurisdictions on how communes and brigades in that municipality implemented hog raising feed policies.

The Method Used In Xiazhang Commune Was to Make Livestock Feed Grain a Part of Grain Payment Quotas, Recovering It From Contract Fields

1. Stable Livestock Feed Grain Policy. When a commune member sold a porker 1 jin of feed grain was allowed for every jin gross weight. To raise a sow required about 200 jin of feed grain for an entire year, which was provided by the collective.

2. No limit on number that may be raised. Year-end settling of accounts was done on the basis of the actual number of jin of porkers sold (as determined from coupons issued by food companies at the time of purchase), and the number of sows raised.

3. Advance setting of livestock feed grain. When contracting land, livestock feed grain, state requisition procurement, and collective withholdings were all assigned to households as part of their payment tasks, production teams making centralized settlement of accounts at year end. At the time of settlement of accounts, feed grain that commune members should receive according to policy regulations was offset against quotas they were to pay.

The Method Used by the Jujia Production Brigade in Lantang Commune Was to Apportion Livestock Feed Grain and Live Hog Raising Quotas on the Basis of Contracted Amount of Cultivated Land. They Made Three Stipulations Guaranteed to Remain Unchanged for Three Years as Follow:

1. For each fattened hog sold, the collective provided a bonus of 300 jin of livestock feed grain. For each sow raised, an annual bonus of 300 jin of Livestock Feed Grain was Given.

2. For every 2 mu of cultivated land contracted for, one porker had to be sold to the state or one sow raised.

3. On average, for each mu of cultivated land contracted, 150 jin of livestock feed grain was apportioned. At the time of final settlement of accounts at year's end, if live hog raising quotas had not been fulfilled, 18 yuan in cash was deducted per head by the production team (i.e. the price difference between 300 jin of paddy rice at the unified grain procurement price and the increased grain price).

This year this brigade has fixed a hog raising quota of 513 head for its 1,026 mu of land, and a sale quota of 400 head. This will assure overfulfillment of quota.

If at the Time of Instituting a Responsibility System Contracting Work Tasks to Individual Households, What Can Be Done If Hog Raising Feed Policies Were Not Instituted at the Same Time? The Method Used by Zhanjia Production Brigade Was As Follows:

1. On the basis of average amount of feed grain provided commune members during the past 3 years the amount of livestock feed land that should be apportioned to each commune member by the production team was calculated. This was converted to a total of 600 mu of livestock feed land for the brigade as a whole, which was contracted among each hog raising household.

2. On the basis of average yields of grain per mu during the last 3 years for the brigade, a yield of 1,400 jin per mu of livestock feed land was set, 100 jin of which was agricultural tax.

3. Set hog raising quotas on the basis of output of livestock feed fields. They set 1.5 jin of unhusked rice for every jin gross weight of live hogs sold, and 450 jin of unhusked rice per sow per year. Using this standard, for each mu of livestock feed land, 860 jin gross weight of porkers should be sold to meet live hog sales quotas.

4. Live hog quotas procurement tasks and livestock feed fields were both contracted to individual households for fulfillment, final settlement of accounts being made at year's end. If live hog sale quotas were not met, for each 100 jin of feed grain, the production team collected 6 yuan from the commune member.

Agreements were signed between production teams and commune members with the aforestated stipulations to remain in force for a period of 3 years.

The Method Used by the Shangdamen Production Brigade of Huayuan Commune Was As Follows: Simultaneous with the Contracting of Responsibility Fields and Grain Ration Fields, Livestock Feed Fields Were Designated

1. Fixing of Hog Raising and Selling Tasks. The average gross weight for hogs raised by commune members during 1979 and 1980 at the time they were taken out of inventory was used as a quota for commune member hog raising this year, and assigned to individual households (Households new to hog raising used self assessment and public discussion for their hog raising quotas). Production teams signed contracts with hog raising households setting sales quotas guaranteed without change for 3 years.

2. Fixing of livestock feed grain. On the basis of the hog raising policy originally set by the production team, livestock feed grain for the year as a whole was calculated. In order to encourage commune members to raise more hogs, an additional 20 percent of reserve livestock feed grain was added as the total livestock feed grain for 1982, for planned implementation in each individual household.

3. Fixing livestock feed fields. On the basis of the total amount of livestock feed grain needed for production team distribution to commune members for their hog raising tasks, and on the basis of comparative grades of land, simultaneous with designation of grain ration fields and responsibility fields was the designation of livestock feed fields for individual households. Generally 1 fen or 1.5 fen of land per porker was allocated, and 1.5 to 2 fen per sow.

4. Year-end accounts settlement. Settlement of accounts for sows was done on the basis of actual numbers raised. For porkers, commune members settled accounts with production teams on the basis of coupons issued at the time live hogs were sold. Those who overfulfilled quotas were paid 20 percent from reserve livestock feed grain. Those who did not fulfill quotas returned to production teams the livestock feed grain (including reserve grain). However, if output fell as a result of disasters and return of livestock feed grain caused hardship, 5.80 yuan in cash for each dan of unhusked rice could be returned.

After this production brigade adopted the aforestated method, the enthusiasm of commune members for hog raising was aroused. At the end of 1981, the number of household raised live hogs in inventory rose from 336 head for the same period in the previous year to 392 head, an increase of 56 head.

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CSO: 4007/344

BRIEFS

SPRAY IRRIGATION OF CASH CROPS--Spray irrigation techniques began to be promoted in Zhejiang Province in 1975, and now 71 counties (or municipalities) have spray irrigation equipment for the spray irrigation of an 830,000 mu area, more than 690,000 mu of which grows economic crops. It has been estimated that with the development of spray irrigation for economic crops, yields have increased by a general 15 to 40 percent. Annually the province as a whole has a 30,000 dan increase in harvests of dry tea, a 200,000 dan increase in citrus fruits, a 6,400 dan increase in silkworm cocoons, an 11,000 dan increase in cotton, a 150,000 dan increase in sugarcane, and a 5,600 increase in luoma [4820 7802] for a 25 million yuan increase in economic income. Spray irrigation is a new irrigation technique. Not only does it save labor, save water and take up less ground space than the usual ground surface irrigation, but irrigation is even, and it is possible to maintain the granular structure, proper moisture, fertility and ventilation of the soil to help crop root development and absorption of fertilizer and water. In addition crop leaves are washed, which helps in their respiration and photosynthesis, making it possible for the new to supersede the old. It also plays a role in prevention of certain diseases and insect pests; consequently results in increased yields are outstanding. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Apr 82 p 2] 9432

CSO: 4007/384

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TITLE: "Analysis of Spike and Grain Characteristics of Rice Plants of Different Effective Number of Tillers"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 1-3

ABSTRACT: For the purpose of clarifying the relationship, if any, between the characteristics of the spike and the grain and the number of effective tillers on a single rice plant, rice plants with less than 4 tillers beyond the main stem were studied in 1980 with the late rice and in 1981 with the early rice. Under the condition of dense planting (25 jin/mu of seeds for early crop and 15 jin/mu for late crop) the main stem appears to dominate as the producer while the tillers are few and weak. Small plot experiments were carried out to compare plants of a stem and tiller ratio of 1:2.8, 1:1.75, and 1:1.44. Under identical conditions of water and fertilizer applications but different transplanting densities, the yield was found to be the highest when the stem-tiller ratio was 1:2.8 with only 3 seedlings transplanted in a hole. In plots of 9 seedlings in a hole and 6 seedlings in a hole, the number of tillers was reduced because of crowding and the yield was lower as well.

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TITLE: "High Yield Experience From Early Planted Summer Soybean in Low Latitude Regions"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 7, inside back cover

ABSTRACT: An experiment was conducted in a field of 1.066 mu in the summer of 1981 to study the high yield principle of cultivating soybean under the ecological condition of the low latitude region of the south, such as Zhanjiang. The field produced an average of 404.7 jin/mu. Aside from using a superior breed, adopting a reasonable density of plants, and carrying out the scientific management method of promoting as well as controlling plant growth, it was discovered that in order to obtain a high fruiting rate, planting should be suitably early to utilize the light and temperature advantages. It is important that the pod formation and ripening stage should be in Jul-Aug with intense solar radiation and the longest daylight hours. This high yield experience is described in some detail.

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TITLE: "A Method of Fertilizer Application for High Yield Rice By Mainly Adjusting the Soil Nitrogen Supply Index"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 19-22

ABSTRACT: Based upon the soil nitrogen supply indices previously obtained (see GUANGDONG NONGYE KEXUE No 6, 81 pp 32-35 and No 1, 82 pp 27-30) the authors conducted an experiment in 5 types of soils to study the use of adjusting and controlling the soil nitrogen supply index as the major principle of applying fertilizer for high yield rice. According to a previous experiment in Chaoshan Prefecture, regardless of the nature of the soil, if the yield is to be about 900 jin/mu, the soil nitrogen supply index in the various stages of growth of the rice plant must reach about the same level. With this experiment, carried out in the spring of 1964-65 and in the winter of 1979-81, the index was predetermined to be 17.20 jin/mu. Throughout the growth and development period, the soil was tested to obtain the

[continuation of GUANGDONG NONGYE KEXUE No 2, 1982 pp 19-22]

nitrogen supply index before determining the need for nitrogen application 5 times in 6-day intervals. The following equation was obtained to calculate the amount of nitrogen fertilizer required, A: $A = \frac{I - (a + U)}{P \times E}$. Where I is the nitrogen supply index determined beforehand; a is the effective nitrogen possibly supplied by the soil on the 6th day after the test (estimate); U is the cumulative nitrogen absorption of the rice plant; P is the nitrogen content of the fertilizer; and E is the effective rate of the nitrogen fertilizer. In the years of 1964, 65, 80, 80, and 81, in soils of various fertility levels and under different conditions of weather, according to the experience of farmers, when this fertilizer application principle was followed, with suitable addition of phosphrus, potassium, etc. the yields were 886, 903, 941, 1033, and 996 jin/mu respectively.

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TITLE: "Nitrogen-Potassium Nutritional Imbalance of Low Yield Rice and the Yield Increase Effect After Potassium Application"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 23-27

ABSTRACT: Due to potassium deficiency of soil and rice nutritional imbalance following an imbalance of nitrogen and potassium in the soil, red spot and sesame leaf spot [Helminthosporiose] diseases have occurred in the various rice producing regions of China in recent years. In Meijiang Commune, the diseases often occur after tillering. Some areas of Meixian Prefecture have always had the tradition of applying 200-400 jin/mu of lime, resulting in a replacement of potassium by calcium while a surplus of calcium ion may also reduce potassium absorption of the rice plants. This paper reports the results of several experiments indicating that in potassium deficient paddy soils, when more than 15 jin/mu of pure nitrogen is applied, red and brown spot diseases will seriously occur, but if an additional 10 jin of potassium sulfate, or 5 jin/mu of K_2O is applied, the disease resistance of the rice plants will improve and the yield will increase.

AUTHOR: XIA Muqing [1115 2606 3237]
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TITLE: "A Promising Green Manure--Vicia Sativa L."

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 2, 8 Mar 82 pp 28-30

ABSTRACT: In 1977, the Agricultural Science Station of Yunyan Commune introduced a small amount of seeds of Vicia sativa L. Experimental cultivation and seed propagation of these 4 years have been very successful. Advantages of this green manure have been found to be the following: (1) High yield and not labor consuming: The yield of grass may reach 3 - 5 thousand jin/mu and that of seeds 120-200 jin/mu. Planting and management take 3 man-days for grass and 5 for seeds. (2) Highly effective as fertilizer and capable of improving soil: Tender leaves are easily decomposed and the roots have many root nodules; (3) Drought resistant, broadly adaptable, and subject to very few pests; (4) Rich protein and starch containing seeds very good as a swine feed: Leaves and seeds of this species contain a small quantity of cyanate; therefore, they must be cooked before feeding them to animals.

6248
CSO: 4011/107

AUTHOR: GUO Baochen [6751 1405 3819]

ORG: Fujian College of Agriculture

TITLE: "Yield Structure and Adjustment and Control Technique of Early-Xian-233"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 1-4

ABSTRACT: Early-xian-233 is an intermediate ripening breed bred out in 1978 by the Breeding Group of Fujian College of Agriculture through hybridization of Zhenlong-410 and Shilunbang before back-crossing with Zhenlong-410. It participated in the provincial early rice region experiment project in 1980 and 81 and demonstrated various degrees of yield increase over several local breeds. In 1981, 300 thousand mu of it were extended throughout the province. The author and colleagues carried out a cultivation experiment early in 1981. The yield structure of 36 paddies of varying yield levels and the fertilizer application and planting density data of this experiment are reported in the paper. The paper also contains such information as the effects of potassium fertilizer applications, the growth and development periods of different seeding and transplanting dates, the effects of low temperature in May 81 on spike development, etc.

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ORG: Fujian College of Agriculture

TITLE: "Preliminary Understandings Regarding Triple-crossed Hybrid Rice"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 p 5

ABSTRACT: In the recent 3 years, triple-crossed hybrid rice has been cultivated in Fujian in large areas. It appears to be high yielding in seed propagation and the hybrids are highly adversity resistant. According to the statistics of the provincial Department of Agriculture, the acreage has been enlarged from the 200 thousand mu of 1979 to the 830 thousand mu of 1981. The experiment of Sanming Prefecture Seed Company in 1979 proved that the yield of the triple-cross(V_{41}A x Zhenxian-97)F_1 x IR_{661} is higher than the single crosses of its own group and that of several other breeds. In the paper, the author suggests that because of the genetic characteristics of the triple-cross, attention should be given to the following: (1) The F_1 sterile line must be completely sterile; (2) The stalk height of the restorer line must be similar to those of the sterile line and the temporary sterile-free line; (3) At least one of either the sterile line or the temporary sterile-free line must have good blooming habit; (4) Based upon the breeding target, all parents must be selected for the capability of complementing one another in the adversity resistant characteristics and the yield structure factors if the expected results are to be obtained.

AUTHOR: CAI Yilun [5591 1704 0243]

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TITLE: "Selection Breeding and Utilization of the Late-xian,Jinnanwan"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 6-8

ABSTRACT: Jinnanwan is a new, typically late intermediate-ripening breed of late xian rice bred out in the early 70's. It has been extended to 740 thousand mu in the 2 prefectures of Jinjiang and Longqi to result in a total increase of more than 20 million jin of rice production. In the spring of 1971, F_2 materials were introduced from South China College of Agriculture in Hainan Island and were propagated twice in the south before being named Jinnanwan in the autumn of 1973. Its growth and development period is about 155 days but its daylight requirement is strict. When it is seeded in late May or early or middle Jun to be transplanted in early Aug, it will always begin spike evolvement in the middle of Sep but its total growth and development period may be affected by conditions of light and temperature of different years and by such factors as fertilizer managment. Its yield is 5-7 percent higher than farm breeds. Its resistance to lodging and cold wind is high. In cultivation, it should be seeded at a proper time. At transplanting,the seedlings should be 60 days old. Its tillering capacity is medium strong; generally with 7 seedlings in a bundle in spaces of 5 x 4 or 6 x 4 cun,the density is the most suitable. Seeds shed relatively easily during ripening time. Irrigation should cease one week before it is ripe and harvest should be fast.

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ORG: Longyan Prefecture Institute of Agricultural Sciences

TITLE: "Experimental Cultivation of Weilaimusi Soybean"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 12-13

ABSTRACT: Weilaimusi [Williams ?; the name indicates its Western origin] soybean was introduced to the institute in 1980 and 2.5 mu of it was cultivated in the spring of 1981. The average yield was 304 jin/mu; the average yield of the high-yield cultivation plots reached 372-380 jin/mu, 3-5 times the yield of local soybean breeds. Preliminary observations indicate that aside from the high yield property, its stem is thick, its branches are few, its internode is short, its pod location is low. Each pod contains many beans. It is resistant to lodging and is tolerant to fertilizer. Its pest resistance is rather high. The pod does not burst open easily during the late stage. Results of experimental cultivations of past 2 years are briefly reported.

AUTHOR: ZHUANG Qiaosheng [8369 1564 3932]

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TITLE: "Problems of Direction and Strategy in Wheat Breeding"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 14-19

ABSTRACT: During the previous year and one winter before that, while participating in the work of compiling and writing ZHONGGUO XIAOMO PINZHONG JI QI XIBU [CHINESE WHEAT BREEDS AND THEIR GENEALOGY] the author felt that in the past 32 years, a great deal of wheat breeding work has been carried out in China and nearly one thousand breeds have been produced. He also discovered some problems: (1) The breeding target has often been a yield of more than one thousand jin while the actual average wheat yield in China is only about 200 jin. The current change of efforts in the direction of scab resistance instead of ultra-high yield is both wise and realistic. (2) The genetic foundation of the parents has been rather limited. The number of genetic origins of the nearly one thousand breeds all over the country is only fourteen. Efforts must be made to find new sources, especially sources of rust resistant antigens. (3) The methods of breeding appear to be always the same. By learning from the USSR, back-crossing was believed to have little potential, for example. In reality, in foreign countries it is a popular method and considered to be useful

[continuation of FUJIAN NONGYE KEJI No 2, 1982 pp 14-19]

for resolving some problems. (4) There have been some domestic cooperative projects in crop breeding. For example, in the early 50's, cooperative efforts in the spring wheat regions of the Northeast were successful in controlling stem rust epidemics very quickly. At present, individual units or elements are still conducting political battles against one another and cannot get into the habit of cooperative breeding work. The paper praises the cooperative breeding project being carried out by members of the Plant Protection Division and the members of the Crop Breeding Division of the Wheat Breeding Research Office of the Institute of Rice and Wheat of the Fujian Provincial Academy of Agricultural Sciences as being a very worthy example. Following the above criticisms of the past projects, some constructive opinions for wheat breeding work of the future are presented.

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TITLE: "Yield Increase Effects of Intercropping in Coastal Lands and the Cultivation Technique"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 10 Apr 82 pp 20-22

ABSTRACT: The coastal region of the southeastern part of Fujian has a large population and very little land. Intercropping and collective management have; therefore, become a special regional characteristic, and many systems have been created. For example, in Jinjiang County, of the 144.8 thousand mu of peanuts, 110 thousand mu are intercropped with sweet potatoes. There is also the system of intercropping peanuts with soybeans as well as sweet potatoes to form the so-called double and triple intercropping systems. These systems are described in the paper, giving reasons for the yield increase effects of these systems. If these systems are to be successful, the selection of suitable breeds, planting all crops at a suitable time, reasonable density of plants to guarantee a sufficient number of each, and intensive management measures are essential. These cropping methods are introduced.

6248
CSO: 4011/104

AUTHOR: LI Jingxiong [2621 4544 7160]
PAN Caixian [3382 2088 2554]

ORG: Both of Chinese Academy of Agricultural Sciences

TITLE: "A Survey of Corn in North China"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 1-3

ABSTRACT: From 25 Aug to 12 Sep 81, the Chinese Academy of Agricultural Sciences organized a team of 25 scientists and teachers to investigate regions of Hebei, Henan, Shaanxi, Shanxi, Shandong, Tianjin, and Beijing, emphasizing on the cultivation condition of corn. The team discovered that these 7 provinces and cities constitute one of the major corn producing regions of China, with a total of 125 million mu of corn acreage, an increase of 80 percent compared with the time just after the liberation. The yield now varies from 6 hundred jin to close to one thousand jin/mu, except for arid, damp, and saline fields where the yield is less than 200 jin/mu. Corn is intercropped in wheat fields or planted after the wheat harvest; both systems were found to have advantages and disadvantages. The ratio of hybrid corn was found to vary from 75 to 96 percent but the majority of the hybrids were still the less than economically favorable single crosses. The target of the breeding work has been properly determined to be resistance to 2-3 locally predominant pests and suitable for wheat fields. The major problem was found to be breed impurity, resulting in yield reduction of 21.4 percent in some cases, virtually wiping out the advantage of heterosis utilization.

AUTHOR: None

ORG: None

TITLE: "Superior Breeds of Corn"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 4-9

ABSTRACT: This paper includes descriptions of the following 16 breeds of corn: (1) Luyuandan No 4: A single cross hybrid produced by Research Institute of Agricultural Utilization of Atomic Energy, Shandong Provincial Academy of Agricultural Sciences, and extended over 10 million mu; (2) Jinxia No 1: A triple cross summer hybrid produced by Tianjin Municiple Institute of Plant Protection; (3) Fengdan No 1: A single cross with comprehensive disease resistance, produced by Institute of Plant Protection, Chinese Academy of Agricultural Sciences; (4) Yundan No 1: A single cross suitable for the mountainous regions of the Southwest, produced by Yunyang Prefecture Institute of Agricultural Sciences, Hubei Province; (5) Longdan No 1: A single cross with a short growth and development period of 100 days, produced by Institute of Crops, Heilongjiang Provincial Academy of Agricultural Sciences; (6) Heyu No 13: An early ripening (102 days) single cross, produced by Hejiang Prefecture Institute of Agricultural Sciences, Heilongjiang Province; (7) Tangdan-16: A single cross with an average yield of 980.5 jin/mu, produced by Tangshan Prefecture Institute of Agricultural Sciences, Hebei Province; (8) Jidan No 3: A single cross produced by

[continuation of NONGYE KEJI TONGXUN No 1, 1982 pp 4-9]

Research Institute of Agricultural Crops, Hebei Provincial Academy of Agriculture and Forestry; (9) Xudan No 3: A single cross weighing 300 g/1000 grains, produced by Xuchang Prefecture Institute of Agricultural Sciences, Henan Province; (10)Xudan No 4: A single cross, weighing 213 g/1000 grains, produced by Xuchang Prefecture Institute of Agricultural Sciences, Henan Province; (11) Changdan No 15: A single cross suitable for regions of more than 140 frostfree days, produced by Institute of Grain Research, Shanxi Provincial Academy of Agriculture; (12) Changdan No 17: A dwarf single cross measuring 205 cm, produced by Institute of Grain Research, Shanxi Academy of Agriculture; (13) Yundan No 1: A high yield single cross, 700-800 jin/mu in fields of average fertility, over 1000 in/mu in fields of good water and fertilizer condition, produced by Corn Group, Institute of Cotton, Shanxi Provincial Academy of Agriculture; (14) Yundan No 2: A medium to early ripening single cross, weighing 313.5 g/1000 grains, produced by the Corn Group, Institute of Cotton, Shanxi Provincial Academy of Agriculture; (15) Yandan-14, Yandan-15: Single crosses bred on the basis of high photo-efficiency by Yantai Prefecture Institute of Agricultural Sciences, Shandong Province; (16) Zhedan No 4: A intermediate ripening single cross of an average yield of 864.8 jin/mu, produced by Zhejiang Province Dongyang Institute of Corn Research. The above breeds are described in some detail, including essential cultivation instructions, prices of seeds, maximum size of order, etc.

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ORG: Nan County Bureau of Agriculture, Hunan Province

TITLE: "Cultivate Strong Early Rice Seedlings With 3-Intensive Technique"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 10-11

ABSTRACT: For the purpose of preparing for meeting the urgent needs of agricultural technology by production teams and farming households after the implementation of production responsibility system in rural villages, the Nan county departments of agricultural technology located on the lakeshore of Dongtinghu organized learning classes in 1981 to bring scientific seedling cultivation techniques to the farming masses. The emphasis is on the 3-intensive technique, i.e. intensive leveling of seedbeds, intensive planting procedure, and intensive management system. The rate of strong seedlings is raised from the 61 percent of 1980 to 68.8 percent. These good and strong seedlings guarantee the acreage and planting density of early rice and there has been a yield increase in every commune of the county. From the 430 thousand mu of early rice in the county, the total yield is 307,310 thousand jin, amounting to an increase of 19.7 percent over the yield of 1980. Details of this successful seedling cultivation technique are described.

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TITLE: "A National Survey of Cotton Breeds"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 18-19

ABSTRACT: For the purpose of clarifying the conditions of selection breeding of cotton and the extension of superior breeds in the major cotton-producing provinces of China, the Cotton Research Institute of Chinese Academy of Agricultural Sciences and the Bureau of Seeds of the Ministry of Agriculture organized a survey team, which was divided into the east and the west sections. From 9 Aug to 2 Sep 81, the team visited 16 scientific research units, 27 provincial and prefecture seed companies, 12 seed farms, 19 rural cotton breeding bases, and 6 textile fiber inspection units in Hebei, Henan, Shaanxi, Shandong, Jiangsu, Hubei, Hunan, Jiangxi, and Shanghai. According to preliminary statistics, there are 22 breeds bred out in China that have been extended to over one million mu. In all the areas visited, these breeds are rapidly replacing breeds introduced from foreign countries. The most outstanding one is Lumian No 1. Last year, the area of its extension reached 18 million mu. Aside from the achievements and experiences of cotton breeding and breed extension, the paper also suggests the following: (1) Strengthen national cooperation in cotton breeding work; (2) Strengthen theoretical research; (3) Emphasize improvement of fiber quality; (4) Strengthen breed certification, regionalization, propagation, and extension work.

6248
CSO: 4011/108

AUTHOR: GUO Yixian [6665 4135 0341]

ORG: Research Institute of Crop Breeding and Cultivation, Chinese Academy of Agricultural Sciences

TITLE: "High Yield Technique and Principle of Dry Cultivation of Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 4-5

ABSTRACT: The dry cultivation of paddy rice technique began to be studied and experimented in 1973 and since then it has been extended to some areas of North China. Due to the fact that it is suitable for the weather condition of spring drought and summer waterlogging of North China and its characteristics of saving water, labor, and fertilizer and convenience for machine cropping, the acreage is being enlarged year after year. In 1981, there was a drought in Beijing, the acreage reached 90 thousand mu, amounting to 1/10 of the total rice acreage in the city. In Japan, transplanted paddy rice has a reported highest yield of 1,753.6 jin/mu but only 1,350 jin/mu for dry seeded paddy rice. In China, in years of 79-80 there have been reports of 1,200 jin/mu yield of dry seeded paddy rice. From the experimental field of the institute, the highest yield is only 981.7 jin/mu (1975) however. Various efforts and experiments in 1979 and 1980 to cause the yield of the dry cropping technique to reach or surpass that of the paddy technique are reported. The technique of reducing the density to promote tiller spikes appears to be promising. More work is needed to find the optimal management of fertilizer and water.

AUTHOR: LOU Xizhi [1236 1585 4363]

ORG: Chinese Academy of Agricultural Sciences

TITLE: "Several Problems in Good Cropping of Hybrid Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 6-9

ABSTRACT: At present,there is a steady development of hybrid rice culture in China but in production there remain the problems of simple grouping, overly long growth and development period, poor adversity resistance, and low and unstable yield of seed propagation. It appears that whenever the scientific principle of using groupings suitable for a particular locality is adhered to, a greater yield increase result is obtained. According to the statistics reported at the South China Hybrid Rice Survey Conference in Yueyang of Hunan Province in Dec 81, the acreage of groups having good resistance to local pests has been steadily and quickly enlarged and that of other groups shrunk to the extent the lost from diseases and pests has been effective lessened. This paper reports various scientific experiments and production experiences designed to overcome the aforementioned problems so as to guarantee a stable extension of hybrid rice culture. There is no mention in the paper in specific words that it is in fact a brief summary of the conference mentioned above.

AUTHOR: HE Liuqi [0149 0362 1142]
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TITLE: "New Progress in the Research on the Utilization of Wild Cotton: Interspecific Hybrid of Upland Cotton and Gossypium anomalum"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 4, 17 Apr 82 pp 17-19

ABSTRACT: Taxonomically speaking, the major cotton breeds used in production at present in China are all bred out from upland cotton, through artificial selection, hybridization, and cultivation. Due to their limited genetic origin, it is rather difficult to produce outstanding new breeds of comprehensive characteristics. In the future, as the 4-modernization construction progresses, cotton breeds will have to be not only high and stable yielding, but also suitable for mechanical cropping, highly resistant to diseases and pests, and low cost and they must also produce quality cotton fiber suitable to weave into mixed fabrics and seeds of high oil and protein contents suitable as human food as well as animal feed. In order to meet these breeding requirements, distant hybridization is becoming necessary. In the last 3 years, with the help of related organizations, more than 10 wild cotton species were introduced from foreign countries. Of these, G. anomalum is of African origin. So far, one interspecific hybrid of upland cotton (Henan-79) and G. anomalum has been obtained. This experimental breeding process is briefly reported.

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I. GENERAL INFORMATION

CHEMICAL FERTILIZERS HELP PREVENT, CONTROL WHEAT FUNGUS

Beijing RENMIN RIBAO in Chinese 30 Jan 82 p 2

[Article by Liu Qingcheng [0491 1987 1004], Xu Yulan [6079 3768 5695] of the Soil Fertility Institute, Chinese Academy of Sciences: "Why Some Chemical Fertilizers Can Prevent and Control Rhizoctonia of Wheat"]

[Text] Rhizoctonia of wheat is a type of disease of the roots of wheat infected by fungus. Because the roots of wheat are damaged, the upper part of the wheat plant cannot receive a sufficient supply of moisture and nutrients. This causes the thousand grain weight of wheat to drop and sterile white spikes emerge. Generally, the yield drops by 20 to 30 percent and the yield of seriously affected plants drops by 60 to 70 percent, with some perhaps even producing no yield. This type of disease has been discovered in all major wheat producing nations in the world. It has occurred in 17 provinces and cities in our nation, most seriously in Shandong and the Hexi Corridor in Gansu. The pathogen in the remnants of diseased plants is spread by the soil and, up to now, appropriate ways of prevention and control have not been found.

Starting from the 1950's, foreign nations have started from the viewpoint of nutritional science and have compared the effects of ammoniacal nitrogen and nitric nitrogen upon rhizoctonia of wheat. In the 1970's, China's agricultural science workers also observed that certain chemical fertilizers have the effect of preventing and controlling rhizoctonia of wheat. A lot of work has been done. We began with different varieties of chemical fertilizers and studied the function of different varieties of chemical fertilizers in preventing the disease. We discovered that the effectiveness of nitrogen and phosphorous fertilizers with the same amount of effective nutrients was very different in preventing the disease. In pot cultivation experiments, the effectiveness of ammonium sulfate and urea was compared. Ammonium sulfate applications could lower the index of the wheat disease by 25 to 30 percent. When comparing calcium superphosphate and calcium-magnesium-phosphorus fertilizers, calcium superphosphate can reduce the index of the disease by 15 to 20 percent. Large field experiments also showed the same results. When the amounts of phosphorus and nitrogen in the soil were the same, ammonium sulfate treatment was visibly better than urea treatment. According to our experiments, ammonium chloride, potassium chloride, potassium sulfate, ammonia water and potassium nitrate were all effective in preventing and controlling wheat rhizoctonia to different degrees.

Chemical fertilizers are not insecticides. Why do they have a preventive and controlling effect upon root disease of the crop? This is because when chemical fertilizers enter the soil, the affect certain properties (such as the degree of acidity and alkalinity, the concentration of ions) of the soil (especially the soil surrounding the roots). The microorganisms living in the soil and the soil environment are united. Changes in the nature of the soil will necessarily affect the microorganisms either favorably or unfavorably. Wheat rizoctonia is a fungus that is relatively tolerant to alkalinity, but not tolerant to acidity. In an acidic environment, its growth is suppressed. When physiological acidic chemical fertilizers in the soil are absorbed by the root system of the crop, an acidic protective layer is formed around the root system, and this produces the preventive effect. Although calcium superphosphate does not possess physiological acidity, it does contain some residual acid which belongs to chemically acidic fertilizers. It can reduce the pathogenicity of the pathogenic microorganisms. The function of ammonia water in preventing the disease is mainly due to the ammonia fume which is bactericidal. According to our experimental observation, ammonia water diluted eight times still has a very strong bactericidal effect upon rhizoctonia bacteria. The mechanism of disease prevention of some other chemical fertilizers still requires further study.

9296
CSO: 4007/252

READYING OF WATER PROJECTS FOR NEW YEAR IN FARMING REPORTED

Beijing RENMIN RIBAO in Chinese 18 Mar 82 p 2

[Article: "Solid Job Done Nationally in Winter Farmland Water Conservancy Construction. Change of Production Conditions To Win a Bumper Harvest in Agriculture This Year"]

[Text] During winter construction of farmland water conservancy, rural villages everywhere adapted general methods to local situations to construct a number of small and fully equipped projects able to provide benefits this year to improve conditions for agricultural production, creating favorable conditions to win a bumper harvest in agriculture this year. According to incomplete statistics from water conservancy units, nationally water conservancy projects of various kinds have been built at more than 300,000 sites, and both quality of construction and actual benefits have been improved over previous years.

In the wake of further implementation and perfection of agricultural production responsibility systems everywhere, enthusiasm of the peasant masses for improvements in production conditions and development of agricultural production is higher. They have urgently demanded construction of farmland water conservancy to increase ability to withstand disasters and to assure consistently high yields in agriculture. In some places practicing "double contraction" to households, commune members got together of their own free will to pool funds for water conservancy. The experience of many places last winter in the construction of water conservancy has demonstrated that all that is needed is serious attention on the part of leaders, adroit guidance according to circumstances, rational planning, policies that are right on the mark, adaptation of general methods to local situations, and striving for genuine benefits, and no matter the form of production responsibility system practiced in agricultural production, farmland water conservancy construction can be done and it can be done more solidly. Last winter Shandong Province newly increased or improved an irrigation area more than double that of 1980, and benefits from investment in water conservancy also increased. By persevering in all around planning, construction in installments, and adaptation to agricultural production responsibility systems, Jiangsu Province established various forms of farmland water conservancy construction responsibility systems, and satisfactorily handled the relationship between "centralized management" and "contracting,'" thereby arousing the enthusiasm of the masses. Work efficiency was high, quality of work good, and the pace rapid on water conservancy projects built during the winter, and 7.49 million trees were also planted in combination with the water conservancy construction for the greening of an area of 54,000 mu.

In the course of last winter's water conservancy construction, all jurisdictions showed substantial concern for proceeding from actual local circumstances in an adaptation of general methods to local situations. In view of the small amount of rainfall during 1981 and the continuation of the drought, the provinces of Shanxi, Hebei, Shandong, and Henan not only intensified management of existing project construction for active development of winter irrigation, but also focused on the need to combat drought to rebuild or build new wells, ditches, and pumping stations, and such small scale projects from which benefits can be derived during the current year, and to provide more water conservancy facilities for the spring fight against drought to protect the wheat and do spring sowing. The provinces of Sichuan and Shaanxi, which last year were severly stricken with flood and waterlogging disasters, placed the emphasis of winter construction on the rebuilding of projects destroyed by water. Last winter a workforce of 1.02 million went to work in Sichuan Province to rebuild water damaged projects at more than 10,000 places. Hanzhong Prefecture in Shaanxi Province has started work at 6,800 sites on the rebuilding of projects destroyed by water. Irrigation water is flowing already in 14 of the prefecture's 18 irrigation areas larger than 10,000 mu. As a result of various work problems during the past 2 years in Woyang County, Anhui Province, a certain amount of damage was done to projects over a wide area. During last year's winter repairs, they concentrated forces on the renovation of former water conservancy projects, practicing "one withdrawal and four returns," meaning the withdrawal from much land formerly taken, and the return to ditches, furrows for irrigation, roads, and forests. Now the former ditch, furrow, and road network has been substantially restored to provide a good foundation for combating drought and preventing waterlogging this year. In addition throughout the province each person wss aroused to plant 20 trees.

Since the beginning of the lunar new year, all jurisdictions have taken advantage of the favorable opportunity before the very busy period of spring farming to organize forces to continue construction and to wind up work on various projects. They have striven to start managing and derive benefits from every location as work is completed on it, so that the role of projects can be brought into play for this year's production.

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CSO: 4007/336

BRIEFS

TREE PLANTING ACHIEVEMENTS--Beijing, 16 May (XINHUA)--China achieved gratifying results in the first year of its nationwide voluntary tree planting campaign. According to data supplied by the Ministry of Forestry, some 1,100 million trees were planted last spring to meet people's tree-planting quotas. In addition, some 35 million mu of land was afforested, 3,000 million trees planted around houses and along roads, rivers and lakes and 2.8 million mu of saplings grown. A leading comrade of the ministry told XINHUA that, while the achievement is significant, there are still some problems needing to be resolved. Among them are an inadequate supply of saplings and lack of attention to trees after planting. [OW250301 Beijing XINNUA Domestic Service in Chinese 0704 GMT 16 May 82]

CSO: 4007/422

HE KANG ON BUILDING FARM RESEARCH PROJECTS

OW191141 Beijing XINHUA Domestic Service in Chinese 1512 GMT 17 May 82

[Text] Wuhan, 17 May (XINHUA)--He Kang, vice minister of agriculture, animal husbandry and fishery, at the inauguration ceremony for an agricultural testing center of the Hubei Provincial Academy of Agricultural Sciences today, said: Our country will complete the building of a number of key agricultural scientific research projects this year. This will greatly improve the conditions for agricultural scientific research in our country.

He Kang continued: The agricultural testing center of the Hubei Provincial Academy of Agricultural Sciences is the first of a number of key agricultural scientific research projects that are being built. Still to be completed are a paddy rice research institute of the Guangdong Provincial Academy of Agricultural Sciences, a laboratory of the Soil and Fertilizer Research Institute of the Chinese Academy of Agricultural Sciences, a central laboratory of the Sichuan Provincial Academy of Agricultural Sciences, a Loess Plateau Soil Testing Center of the Shaanxi Provincial Academy of Agricultural Sciences, a central laboratory of the Xinjiang Uygur Autonomous Regional Academy of Agricultural Sciences, the Agrobiological Genetic Physiology Research Institute of the Jiangsu Provincial Academy of Agricultural Sciences and the Soybean Research Institute of the Jilin Provincial Academy of Agricultural Sciences. Six of the nine key agricultural scientific research projects will engage in scientific research, with the stress on serving agricultural production, while the other three will serve agricultural production, with the stress on scientific research. These projects have been or are being built with investments from the state and from localities in order to improve material and technical conditions for agricultural scientific research and to meet the requirements of agricultural modernization in our country.

After their completion, these key agricultural scientific research projects will do work for the modernization of agricultural scientific research in our country. On the basis of further summing up experience in building agricultural scientific research projects, the Ministry of Agriculture, Animal Husbandry and Fishery will make concerted efforts together with various local governments to improve scientific research conditions and technical equipment of our country's agricultural scientific research units by stages and in groups so that they will measure up to advanced world levels.

CSO: 4007/422

FARM MACHINERY ENTERPRISES INCREASE EFFORTS TO MEET MARKET DEMANDS

Beijing BEIJING RIBAO in Chinese 14 Feb 82 p 1

[Article by Shi Yuandan [0670 0337 2481]: "The Enterprises of the City's Farm Machinery System Adapt to the New Situation in the Farm Villages--They Exert Efforts to Increase Products that Meet Market Demands and Small Farm Machinery"]

[Text] The enterprises subordinate to the city's Farm Machinery Bureau have conscientiously implemented the policy of readjustment, adapting to the new situation in the farm villages after implementation of the production responsibility system. They have exerted efforts to increase the production of products that meet market demands and small farm machinery and tools that are urgently needed in the farm villages. This has created a new situation in production. In January, the total production value of enterprises under the direct jurisdiction of the bureau increased 20.7 percent over the same period a year ago.

During the second half of last year, the enterprises subordinate to the Farm Machinery Bureau underwent reorganization and readjustment. To open up sales for their products, each unit improved quality on the one hand and developed sales and services on the other. At the beginning of last year, the Hand Tractor Plant only had an order for three units. This year, because the quality was improved and because the plant's representatives went deeply into the communes and brigades to offer services, the plant won the trust of the users and, at the beginning of this year, the orders jumped to more than 2,000 units. In January they organized forces to increase production and greatly hastened the progress of assembly. To deliver the products to the users in time, they organized manpower during the spring holidays to help the railroad department load and transport the units. By the first day of the Chinese New Year, 200 units had already been shipped.

Some enterprises of the farm machinery units also exerted efforts to produce more small farm machinery and accessories which were deficient in the market while they completed state plans. The City Power Machinery Plant manufactured metallic chicken coops for commune members engaged in chicken and egg production. The coops were welcomed by commune members.

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CSO: 4007/252

BRIEFS

SEED STANDARDIZATION COMMITTEE--Beijing, 26 May (XINHUA)--The National Technical Committee for seed standardization was set up here today. The committee will put forward proposals concerning principles, policies, technical measures and state criteria for quality control and subjects for study. Seed standardization involves the purity and germination rates of seeds as well as seed production and testing techniques. It also involves the packaging, storage and transportation of seeds. The committee was formed by people from scientific research institutes, seed farms, seed examination and management departments and colleges and seed users. [Text] [Beijing XINHUA in English 1249 GMT 26 May 82 OW]

CSO: 4020/137

PROVINCIAL TIDELAND RECLAMATION 1981 GAINS NOTED

Fuzhou FUJIAN RIBAO in Chinese 6 Feb 82 p 1

[Article by Zhao Erkang [6392 1422 1660]: "Tideland Reclamation Area in Province Tops 1 Million Mu"]

[Text] Last year our province's reclamation of tideland in coastal areas achieved new successes, the provincial plan to enclose 60,000 mu of land and reclaim and cultivate 10,000 mu of land has now been fulfilled or is about to be fulfilled, and at this point the area of tideland reclaimed by the province has topped 1 million mu.

Last year our country's coastal tideland reclamation work focused on projects to round off the enclosure of tideland and make use of the land for reclamation and cultivation. Its characteristics were: (1) there were many enclosure projects, in all eight; (2) the enclosures were comparatively smooth, all being successful the first time, and after the enclosures the sea walls were stable; (3) the longstanding, big, and difficult reclamation projects like the Ningde Two City and Xiapu Three Red were successfully enclosed; and (4) the rate of reclamation and cultivation was fairly fast and the economic results were great. The policy of relaxation has aroused the enthusiasm of the collective and the individual in many localities, and over 96,000 mu of tideland has been reclaimed and cultivated; according to the principle of farming on land suitable for farming, fishing in areas suitable for fishing, and extracting salt on land suitable for salt extraction, most of this land was planted to paddy rice, sweet potatoes, sugarcane, peanuts, beans, and other crops. Also newly opened were over 6,200 mu of shrimp pools and fish-rearing pools, and over 12,000 mu were used for aquatic breeding in former harbor channels and for newly built saltworks. Last year the total output value of agriculture, fishery, and salt industry in the new reclamation area reached over 13.4 million yuan, thereby supplying to the state many agricultural and subsidiary products, stimulating the market, and increasing the peasants' income.

That our province last year obtained remarkable results in enclosing tideland along the coast for cultivation was mainly because the party and government at all levels strengthened the leadership over the work of enclosing tideland for cultivation, did things scientifically, developed the role of technical personnel at water conservancy projects, strengthened the management of projects, and put into effect the responsibility system. Although weather conditions last year were detrimental to the enclosing of land for reclamation projects, with many typhoons, big floods, and unusually high tides, which posed many difficulties for the enclosure projects; under the attention of the leaders concerned, the cadres, workers, and technicians engaged in this work made great efforts together, overcame the difficulties, and finally completed successfully the work of blocking harbors and enclosing tideland. For example, in the Fuqing Keyu and Pingtan Xingfu Yang reclamation projects, before the land was enclosed, the leadership made personal on-site inspections, repeatedly studied and formulated enclosure plans, and chose the most advantageous times for blocking harbors, and as a result the harbor blocking went extremely smoothly.

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CSO: 4007/276

EDITORIAL: STATE PLAN, GRAIN OUTPUT MUST NOT BE SLIGHTED

Fuzhou FUJIAN RIBAO in Chinese 9 Feb 82 p 1

[Editorial: "Uphold Planned Economy, Stabilize Grain Acreage"]

[Text] The "Beginning of Spring" [first solar term--5 February], has already passed and the rural communes and production teams are now getting a tight grip on the implementation of this year's planting plan. Herein lies a problem, viz, we must, according to the state plan, arrange well the acreage to be planted with grain this year.

We bring up this problem because, after various forms of the responsibility system were put into effect, some cadres and commune members seem to think that agricultural production does not need to be planned and that whatever they want to plant can be planted, so that there is a trend to further reduce the acreage planted with grain.

Everybody knows that the "Resolution on Certain Questions in the History of Our Party Since the Founding of the PRC," adopted by the 6th Plenary Session of the 11th CCP Central Committee, pointed out: "It is essential, on the basis of the public ownership of the means of production, to put into practice a planned economy and at the same time to give play to the supplementary role of market regulation." No matter what form of the responsibility system is put into practice, the agricultural economy must likewise put into practice a planned economy and must likewise make the planned economy primary and market regulation supplementary, and it definitely cannot disregard the state plan and develop freely. This indicates that in the current implementation of the planting plan we must accept the guidance of the state plan. The state must respect the right of the production teams to act on their own and must respect the interests of the peasants, and the peasants must act within the framework of the state plan. There are many people and little land in our province, with a provincewide per capita average of only 7 or 8 fen of cultivated land. In the past several years, although grain output has increased in successive years, generally speaking, the level of grain production is still relatively low, and, compared with the speed of the development of the national economy and the requirements for continually improving the people's life, it is still very unsuitable. The average per capita amount of grain is relatively small, and the arrangements in various aspects are relatively tight. Over the last 3 years, the internal structure of our province's agriculture has been reformed, and already the acreage planted to grain has been adjusted downward by over 2.2 million mu. This readjustment was completely necessary, and the economic effect has been marked. Now, the grain acreage must be stabilized and it cannot again be reduced. If the acreage were to again be reduced, this would cause a reduction in grain output, which would affect the stability of the state, the people's livelihood, and society. Leaders at all levels must be clear-headed on this point, and they certainly cannot treat lightly this important matter which affects the whole situation!

In stressing planning now, we do not want to change the policies since the third plenary session, and also we do not want to not engage in a diversified economy or to change the internal structure of agriculture. Our policy is still to not slack off in grain production while vigorously developing a diversified economy. Therefore, it is necessary to reform the internal structure of agriculture, and on this point no vacillation is allowed; but the total output of grain must increase on a stable basis, and we must insist upon this point. Between the two points there truly is a contradiction. Can the contradiction be resolved? It can. The fundamental orientation for resolving the contradiction lies in the mountains and the sea. Our province has many mountains and a vast sea. The mountains are "gold mountains" and the sea is a "silver sea." In our province, to study well the "mountain and sea classic" is a big question of a strategic nature. That is to say: in order to develop economic crops and to develop a diversified economy, we must fix our eyes on the natural resources of the mountains and the sea that have not been fully utilized, and we cannot just look at the cultivated land now available. As for the economic crops on the existing cultivated land, their per unit area yield and quality should be raised, and we cannot squeeze the grainfield acreage. With the exception of city suburbs and certain economic crop areas, in all other places the grain acreage must be stabilized. Grain-producing areas must continue even more to make hard efforts to develop grain production.

We must carry out socialist, patriotic education among the peasants so that they will uphold the economy and a stable grainfield acreage. Since the third plenary session, the party and government have put into effect a series of rural policies, all of which will enrich the country and the people and all of which are in the long-term interests of the peasants. That the state considers the interests of the peasants in this way means that the peasants should fulfill their obligations to the state and make more contributions to the state and that they cannot just choose methods that are of temporary advantage to themselves and disregard the state's fundamental interests. We must educate the peasants to give consideration to the interests of the state, the collective, and the individual and, according to the state's plan, by means of contracts, do a good job of planting grain and economic crops and rationally arrange the proportion of grain and economic crops planted.

To stabilize the grainfield acreage and insure a stable output increase of grain--this is the glorious task of the great number of cadres and commune members throughout the province, and they must concentrate their energy and go all out to do a good job of spring plowing and production. At present, in many areas the work of preparing for plowing and sowing has been inadequate, not much farm manure has been accumulated, the winter plowing and soil turnover was deficient, and many water conservancy works have not been timely reconditioned. Party committees and government at all levels must really strengthen leadership over spring plowing and production, give full play to the role of rural basic-level organizations, and get a good grip on all material preparation for spring plowing and win a victory in this battle of spring plowing.

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CSO: 4007/276

FASTER WORK IN WINTER SOIL TURNOVER URGED

Fuzhou FUJIAN RIBAO in Chinese 9 Feb 82 p 1

[Article by Chen Benxiang [7115 2609 3276] et al.: "Intensify Soil Turnover To Greet Spring Plowing"]

[Text] According to statistics compiled by the provincial department of agriculture on 5 February, winter soil turnover throughout the province has been completed on over 6.5 million mu, which amounts to 81.5 percent of the fallow fields on which soil should be turned over. This work has been done a little faster than in the corresponding period of last year, but there is an imbalance between prefecture and prefecture, between county and county, and quite a few of them are lagging behind.

In Longxi Prefecture, winter soil turnover was fairly rapid, by 18 January this work had been basically completed on the acreage--over 935,000 mu--on which soil should be turned over. After the first winter soil turnover was finished on Longhai County's scheduled 135,000 mu of farmland, a second turnover was done on 10,000-odd mu. In this county, some communes and production teams located in mountains, this year are also using the method of piling up soil walls in order to dry the soil and promote weathering; some of them are fumigating the soil in order to raise its temperature. Before the year began, Guangze, Jiangle, Ninghua, Changting, Yongding, Shanghang, and Wuping counties had basically completed the task of winter soil turnover.

The common experiences of these prefectures and counties which did a good job of turning over the soil was that before the new year began they strengthened and perfected the production responsibility system, thereby stabilizing popular morale. For example 960 of the 982 production teams in Guangze County strengthened and perfected the production responsibility system. Next, the organization of the production brigades and production teams was overhauled and consolidated and the leading groups were strengthened, and therefore the cadres dared to grasp and manage the work and were bold in providing leadership.

Jiangang and Ningde Prefectures were comparatively slow in winter soil turnover. As of 1 February, Jiangang had completed half of its soil turnover and was 20,000 mu short of the acreage turned over in the corresponding period of last year. In Fuding and Fu'an Counties of Ningde Prefecture, soil had only been turned over on about 30 percent of the required acreage. The counties which had fallen behind were Mingxi County, which has only completed one-third of the work, and Changle County, which is 10,000 mu behind what it was in the corresponding period of last year. Among the reasons for the relative slowness in turning over soil in these prefectures and counties are that the production responsibility system has not yet been implemented and that among the peasants there exists the idea of looking on and waiting: some cadres of some communes and production teams in localities where the "double contract" [system of fixing output quotas based on households and system of peasant households assuming full responsibility for task completion] system has been put into effect think that the peasants themselves will do the work of winter soil turnover and they have slackened their leadership, and in particular some of the masses think that this year is a "year with an extra spring" and a leap month of April so that the seasons come slowly and there will still be time to turn over the soil.

A comrade of the provincial agricultural department thinks that although the golden season for winter soil turnover has already been missed, to plow now will still turn over the soil in good fashion compared to the time when there is more water in the fields, because there is still a certain time left to turn over the soil and let it weather and the farmwork can be staggered. But during the current plowing, attention must be paid to deep-plowing the originally plowed layer so as to avoid turning over immature soil and thus adversely affecting the growth of early-season rice. He hopes the prefectures in which the soil-turnover rate is slow will strengthen their leadership, getting a good grip on implementing the production responsibility system, on reorganizing the basic-level leading groups and organizing the commune members to concentrate their manpower, animal power, and farm machinery and tools on the work of turning over the soil in preparation for plowing and sowing, so that the necessary conditions will be created for wresting a bumper grain harvest this year.

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CSO: 4007/276

BRIEFS

SONGXI COUNTY RICE CROP--The peasants in Songxi County, Fujian Province, planted more than 120,000 mu of double-cropping early rice and afforested more than 33,000 mu of land this year, overfulfilling their tasks. [OW271111 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 26 May 82]

EARLY RICE--The Fujian Provincial Agricultural Department held a meeting 10-12 May in Fuzhou, attended by directors of prefectural and county agricultural bureaus, to discuss the work of early-rice planting in the province. It was pointed out at the meeting that this year's early-rice planting plan had not been fulfilled, and that as of the beginning of summer, only 9.74 million mu had been planted, a decline of some 700,000 mu compared with the same period of last year. Under these circumstances, the meeting urged, great efforts should be made to increase the total grain output by 300 million jin this year. Among other things, it called for attention to controlling possible rice diseases and insect pests. [OW161339 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 14 May 82]

YONGAN COUNTY FLOODS--On the evening of 10 May, Yongan County, Fujian, was hit by torrential rains and hailstorms rarely seen in many years. The waters cascading down from the mountains and spilling over from overflowing rivers inundated over 19,000 mu of rice fields, almost disrupted the harvesting of nearly 1,000 mu of vegetables, destroyed a number of bridges, highways and water conservancy facilities, tore down houses and injured or killed people and animals. In view of the disaster, leaders of county departments concerned have organized the people in the more seriously affected communes, production brigades, production teams, plants, mines and enterprises to carry out rescue, relief and repair activities. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 15 May 82]

SPRING FARMING--Fujian Province has basically completed spring farming for this year. According to agricultural departments, as of 5 May the province had planted 9.5 million mu of early rice, 526,000 mu of soybean, 1.17 million mu of peanuts and 700,000 mu of sugarcane. This year the acreage planted to early rice is more than 500,000 mu less than last year. [OW191405 Fuzhou FUJIAN RIBAO in Chinese 8 May 82 p 3]

MARINE ECOLOGICAL RESEARCH--Xiamen, 27 May (XINHUA)--Chinese oceanologists will take an active part in international academic exchanges in marine eco-system and marine environmental protection under a plan announced at a recent special committee meeting on marine ecology of the Chinese Ecological Society. According to the plan, efforts will be organized to forecast the effect of human activity on marine eco-system, carry out research on controlled eco-system and on marine artificial biology, and tap measures to protect marine organism resources. Scientists who attended the meeting in this Fujian Province coastal city called for strengthening the research of primary marine productive forces. [Excerpt] [Beijing XINHUA in English 0721 GMT 27 May 82 OW]

COUNTY RAPESEED PROCUREMENT--Ninghua County, Fujian Province, has reaped a bumper harvest of rapeseed on 59,900 mu this year. As of 18 May, the county had procured 37,000 jin of rapeseed oil. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 5 Jun 82]

SANMING PREFECTURE RICE--The acreage under early rice in Sanming Prefecture, Fujian Province, has been reduced by 120,000 mu because of a decision in spring to turn low-yield rice fields to the growth of single rice crops instead of double rice crops. At the same time, the prefecture's acreage under hybrid rice strains will expand from last year's 500,000 mu to more than 700,000 mu. [OW061337 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 30 May 82]

CSO: 4007/428

PROVINCE SUFFERS FROM OVERRUNNING WEEDS

SK200658 Lanzhou Gansu Provincial Service in Mandarin 2200 GMT 18 May 82

[Letter written to the station's editorial department by (Ge Guangxin), senior agronomist and deputy director of the Provincial Agricultural Bureau, urging all localities to conquer overrunning weeds as early as possible]

[Excerpt] The letter notes: Now our province's spring sowing and plowing are nearing successful completion and summer hoeing has already begun. Adopting effective measures as early as possible to conquer overrunning weeds to promote the growing of crop seedlings is an important task for agricultural production. Our province has more lands but fewer residents; thus, the cultivation of farmland is extensive. In each of the past years, about 10 to 20 million mu of farmland were overrun with weeds, which affected agricultural production.

The province experienced more rainfall last year. Hejing and Mudanjiang prefectures were stricken by serious floods and waterlogging, interfering with timely weeding, plowing and banking soil to the growing crops in the summer. As a result, much farmland was overgrown with weeds.

According to an investigation made by the Huanan County Agriculture Department at (Jiancaogou) brigade in (Dabalang) commune, there are 3,000 to 8,000 grass seeds on every one square meter plot overrun with weeds. Since many plots were not cultivated and many grass seeds left on land last year and the soil moisture content is good this year in most areas, grass seedlings have grown on plots cultivated at an earlier date.

In line with an investigation of wheatfields at a seed multiplication farm in Huanan County, some 530 blades of small grass have grown on each one square meter plot, weeds outnumber crop seedlings and grass seedlings are growing. If we fail to promptly adopt measures to eliminate weeds, damages this year will be more serious than last year. All localities should pay attention to it.

CSO: 4007/422

BRIEFS

WHEAT PRODUCTION--Lintao County in Gansu Province has 520,000 mu of wheat, of which 25,000 mu is winter wheat; the wheat is growing well. Communes in the county are giving meticulous attention to wheat field management. [SK210842 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 20 May 82]

CSO: 4007/422

RICE INSTITUTE INAUGURATED IN GUANGZHOU

OW231218 Beijing XINHUA in English 1208 GMT 23 May 82

[Text] Guangzhou, 23 May (XINHUA)--An inauguration ceremony was held here on 22 May for the newly expanded Rice Research Institute under the Guangdong Provincial Academy of Agricultural Sciences.

Standing on the outskirts of the city, the Rice Research Institute has been upgraded with up-to-date apparatus. It will make researches on rice, which accounts for nearly half of China's grain output.

The predecessor of the Rice Research Institute was a rice experimental farm founded 50 years ago by famous Chinese rice expert Professor Ding Ying. The research results obtained by the institute in breeding low-stalk rice varieties have won recognition both at home and abroad. With 220 scientists and staff members, the institute will conduct research and tests for Guangdong and other southern China provinces.

The institute lays stress on research in applied techniques and development of production while strengthening studies in fundamental theories. It will help train scientists and technicians.

The institute will also conduct international academic exchanges.

It is equipped with atomic absorption spectrophotometers, apparatus for analyzing the properties of cereals and other up-to-date instruments.

Among the over 100 people attending the inauguration ceremony were Liu Xigeng, a representative of the Ministry of Agriculture, Animal Husbandry and Fishery, Fan Xixian, vice governor of Guangdong Province, and scientists and experts.

CSO: 4020/132

BRIEFS

PIG PRODUCTION INCREASES--According to the statistics compiled by the Guangdong Provincial Statistical Bureau, the number of pigs raised in the province in the first quarter of this year was some 21.83 million, 3.9 percent more than in the same period of last year; and the amount of pigs on hand in the first quarter of this year was some 19.35 million, 4 percent more than in the corresponding period of last year. Of these, the number of sows on hand, which were capable of breeding, was 16.7 percent more than in the same period of last year. The number of piglets on hand was 12.2 percent more than in the corresponding period of last year. The number of pigs sold in the first quarter of this year was 94,700 more than in the same period of last year, an increase of 4 percent. [HK191453 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 10 May 82]

HAINAN AGRICULTURAL LOANS--Agricultural banks and credit cooperatives in all places in the Han areas in Hainan region have issued loans to commune members to develop agricultural production. They issued loans of some 32 million yuan to individual commune members from January to April this year. This amount accounted for 55.5 percent of the total amount of agricultural loans in the same period and was 32.9 percent more than in the corresponding period of last year. With these loans, peasant households can buy seeds, chemical fertilizers, draft cattle, agricultural machinery and tools. [Haikou Hainan Island Service in Mandarin 0330 GMT 24 May 82]

HAINAN ENTERPRISES FINANCIAL INSPECTION--Hainan region has conducted a large-scale inspection of the finances of state-run enterprises in its Han areas. According to incomplete statistics, by the end of April, cases in violation of financial discipline, involving 2.494 million yuan, had been discovered and 518,000 yuan of this amount had been submitted to the treasury. This year, the Hainan administrative commissioner's office twice issued instructions on conducting a large-scale inspection of the finances of the state-run enterprises throughout the region. The regional administrative commissioner's office and all county people's governments have set up large-scale leadership groups for inspection of enterprise finances. [Haikou Hainan Island Service in Mandarin 0330 GMT 11 May 82]

SPRING-HARVESTED CROPS--All places in Guangdong Province have completed harvesting of spring-harvested crops. According to statistics, the province's total output of spring-harvested crops was 1.173 billion jin, 2.18 percent more than last year. Output of soybeans increased by 20 percent, output of tobacco increased by over 10 percent and output of vegetables also greatly increased. [HK260927 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 25 May 82]

CSO: 4007/422

BRIEFS

WINTER TOBACCO HARVEST--Nanning, 24 May (XINHUA)--The quality of the 636,600 dan winter tobacco harvested this year in Guangxi is the best ever harvested by the peasants. [OW250431 Beijing XINHUA Domestic Service in Chinese 0051 GMT 24 May 82]

SUGARCANE PRESSING--In the 1981-1982 sugarcane-pressing season, Guangxi region pressed some 4.18 million tons of sugarcane, some 830,000 tons more than in the preceding sugarcane-pressing season, an increase of 24.77 percent. The region manufactured some 490,500 tons of sugar, some 69,500 tons more than in the preceding sugarcane-pressing season, an increase of 16.5 percent. Because sugarcane production increased in this sugarcane-pressing season, sufficient raw materials were supplied for the production of alcohol. In this sugarcane-pressing season, output of alcohol reached some 11,200 tons, 41.9 percent more than in the preceding sugarcane-pressing season. [HK240354 Nanning Guangxi Regional Service in Mandarin 1100 GMT 13 May 82]

GRAIN PRODUCTION--According to a recorded talk by (Yu Yunhong), vice chairman of the Guangxi Regional Agricultural Committee, the region's total output of grain in 1981 was 1.6 times greater than in 1950, an average increase of 3.2 percent each year. Even if this is so, we must by no means disregard and relax production of grain. We must make grain production develop steadily. At present, this region has not yet solved the problem of adequate grain production. Generally speaking, to solve the problem of adequate grain production, each person should produce an average of over 1,000 jin of grain; to basically solve the problem, each person should produce an average of 800 jin. At present, each person in this region produces an average of some 670 jin of grain. With this output, the region will not be able to meet the needs in times of serious natural disasters or other emergencies. The region must therefore strive to develop grain production. [HK061501 Nanning Guangxi Regional Service in Mandarin 1100 GMT 5 May 82]

COMMERCIAL GRAIN BASES--The Guangxi regional conference on the work of commercial grain bases which is being held by the regional CCP Committee and the regional people's government opened on 8 May. The conference pointed out that, since 1980, the 150 communes in this region which have built 184 commercial grain bases, have initially achieved good results. In 1980, the majority of these communes increased production and the arable land covered by the bases accounted for 22 percent of the region's total area of arable land. These bases' output of grain was 257.94 million jin, 74 percent of the region's output of grain. In 1981, despite serious natural disasters, some communes with commercial grain bases increased production. In 1981, the arable land of these commercial grain bases accounted for 27.2 percent of the region's total area of arable land. The communes with commercial grain bases have also developed diversification. Over the past 2 years, these bases have produced 319,500 tons of sugarcane, an increase of 28.3 percent and increased the number of draft cattle by some 16,000 head, an increase of about 2 percent. The number of pigs in these bases in 1981 was 260,000 head more than in 1980, an increase of 9.6 percent. In 1981, the state invested some 56 million yuan in water conservation projects in these bases and this investiment was 46.8 percent of the total investment in water conservation projects in the whole region. [HK191333 Nanning Guangxi Regional Service in Mandarin 1100 GMT 9 May 82]

METEOROLOGICAL FORECASTS--Under the influence of atmospheric circulation, Guangxi region had natural disasters, such as hailstorms, strong wind, a spring cold wave and extraordinarily torrential rain, one after another and incurred serious losses. In the next few months, the region may possibly have natural disasters, such as drought, floods, strong wind and low temperatures. All places must make good preparations against natural disasters and do everything possible to reap a bumper agricultural harvest this year. According to the analysis of the regional meteorological department, from May to October this year, the main natural disasters will be drought, floods, strong wind and low temperatures. In May, the region may possibly have three to five hailstorms. In the second half of this year, the region may have tornados, thunder-storms in some areas and strong winds. It is estimated that between June and August this year, it will rain more in this region and floods may occur. In September and October, it will rain less in the north and the central parts of the region and there may be drought. [HK130717 Nanning Guangxi Regional Service in Mandarin 1100 GMT 7 May 82]

CANE SUGAR--Nanning, 14 May (XINHUA)--The Guangxi Zhuang Autonomous Region, a major cane sugar producer, has produced more than 500,000 tons of cane sugar, an alltime high, in the 1981-82 refining year, according to the regional light industrial department. The increase resulted from the peasants' higher enthusiasm for sugarcane planting under the responsibility system and the growth of the crop on an additional 17,300 hectares, the department said. In the current refining year, sugarcane supplied to the region's sugar refineries came to 4.24 million tons, an increase of 24.8 percent over the previous refining year, the department said. In an effort to expand the sugar refining capacity, the region has completed 12 refineries since 1978, thus adding a daily refining capacity of 7,500 tons to the total. Last year, 22 refineries went through technical transformation, adding a daily refining capacity of 4,700 tons to the total, the department reported. [OW201025 Beijing XINHUA in English 1207 GMT 14 May 82]

SUGAR PRODUCTION IN GUANGXI--Guangxi Zhuang Autonomous Region has broken historical records for sugar production. By the end of the most recent season, it had produced 500,000 metric tons of sugar. In order to expand its sugar cane processing capacity, Guangxi has built 12 new automated sugar mills since 1978. It thereby increased its daily cane pressing capacity by 7,500 metric tons. Last year the autonomous region renovated 22 automated sugar mills, increasing its processing capacity by more than 4700 metric tons. [Text] [Shenyang LIAONING RIBAO in Chinese 19 May 82 p 4]

CSO: 4013/92

AGRICULTURE OFFICIALS WAGE PROPER CARE FOR WHEATFIELDS

Shijiazhuang HEBEI RIBAO in Chinese 14 Mar 82 p 1

[Article: "Energetic Action in Caring for Intermediate Yield Region Wheat, Which Holds Greatest Potential for Increased Yields. Comrades in Charge at Provincial Agriculture Bureau Make Statement on Doing a Good Job of Wheatfield Care"]

[Text] Recently, comrades in charge at the Provincial Agriculture Bureau made the following remarks about the issue of doing a good job of wheatfield care.

The emphasis in wheatfield care should currently be placed on care of intermediate yield wheat producing areas where the greatest potential for increased yields exists. By intermediate yield areas is meant principally wheatfields with yields ranging from 300 to 600 jin per mu. Such areas account for 51 percent of the province's total grainfield area, and account for 48.8 percent of the province's total grain output. They are characterized as follows: Production conditions are fairly good, the irrigated area averaging 1.26 mu per capita. They are similar in this way to high yield areas, but soil fertility is poor, and levels of production techniques comparatively low. All that is needed is to focus attention on them, and their potential for increased yields will be very great; results will show quickly; and the grain production situation can be mastered.

Recently we assembled comrades from five representative intermediate yield counties to talk about the issue of wheat care in intermediate yield counties. In these intermediate yield counties, wheat yields fluctuate around an average 2000 jin or so per mu. Wheat yields per unit of area may vary by as much as 100 jin between a bumper year and a meager year; yields are low and inconsistent. The main reasons by these intermediate yield area's output cannot be made to rise very rapidly are, first of all, insufficient soil fertility. A look at survey data from 14 intermediate yield wheat growing counties in which soil surveys have been completed shows a soil organic content of only 0.7 to 1 percent; total nitrogen to be 0.05 to 0.08 percent, and quick acting phosphate to be only between 3.3 and 8.6 parts per million, or a general 5 parts per million. Not only does it lack nitrogen, but it is seriously deficient in phosphate. Second is the amount of fertilization is little. The quantity of coarse organic fertilizer used has not increased for many years. Amount of nitrogenous chemical fertilizer used averages only 50 jin per mu of wheatfields, about 50 jin less than for high yield wheat growing areas. The amount of phosphate fertilizer used is also very little. Representative sampling shows the area of this kind of wheatfield fertilized with phosphate fertilizer amounts to less than 30 percent of the total wheatfield area. Phosphate fertilizer applications average less than 10 jin per mu, and sometimes only 3 to 5 jin per mu. Third is the slapdash care of poor quality manifested in failure to sow seeds, irrigate, apply top dressings of fertilizer, hoe and rake, or eradicate insects on time. For these reasons, the intermediate wheatfield area produces little tillering, and a reduced number of mature heads, the number of heads averaging about 200,000 per mu, which is from 100,000 to 200,000 fewer heads than from high yield wheatfields.

In order to come to grips with wheatfield care in intermediate fields, in light of the existing major technical problems existing at the present time, emphasis should go to the following key measures.

First is equitable distribution of chemical fertilizer, emphasis going to the fertilization of intermediate yield wheatfields. According to fertilizer experiments conducted by the Provincial Agriculture Crop Institute on wheatfields with different levels of yields, when 1 jin of chemical fertilizer per mu was applied to fields with yields of less than 300 jin per mu, yields increased by 3.7 jin. For wheatfields with yields of between 300 and 600 jin per mu, 1 jin of chemical fertilizer increased wheat yields by 2.3 jin. For wheatfields bearing yields of more than 600 jin, 1 jin of chemical fertilizer meant an increase in yields of only 0.3 jin per mu. Similarly, 1 jin of chemical fertilizer used on an intermediate yield wheatfield can bring a wheat yield of 2 jin more than if used on high yield wheatfields. If 15 more jin per mu of chemical fertilizer could be applied to intermediate yields, the province's 20 million mu of intermediate yield wheatfields could produce 600 million jin more of weat. When heavy early fertilization of intermediate yield wheatfields for greening-up was stressed, results were better than from application of fertilizer for jointing.

Next, attention to use of nitrogenous and phosphate fertilizers in proper proportions. The soil in intermediate yield wheat growing areas are seriously phosphate deficient, and results achieved from fertilization with phosphate are extremely remarkable. In places that have not been fertilized with phosphate base fertilizer or seed fertilizer, in particular, attention should be especially given to increased phosphate fertilization, but fertilization with a mixture of nitrogenous and phosphate fertilizer. Now is the time to combine irrigation for greening up with top dressings of phosphate and nitrogenous fertilizer.

Third is full use of existing water sources, making full advantage of increased benefits in production from water conservancy facilities. This year the weather is dry and soil moisture conditions in wheatfields are bad. Much attention must be devoted to irrigation. First should be a general watering for greening up. Effort should be made to make a total of three or four waterings. The former method of heavy watering at the outset and a slackening off at the end should be changed.

Fourth is timely care to assure quality. This requires, first of all, prompt hoeing and raking, hoeing and raking being intensified on wheatfields with a hard, cracked surface to conserve soil moistuer and increase warmth. Following watering, the wheat should be hoed at the right time, and for late growing and feeble wheatfields hoeing and raking is of primary importance to increase temperature and conserve soil moisture for the promotion of root growth. Second is spraying with phosphorous. At the time of flowering, spraying should be done using potassium dihydrogenphosphate to meet need for the element phosphorous during the flowering period. Third is prevention and control of wheat aphids done in combination with the spraying of phosphorus. Fourth is watering the wheat with Huang Shui [7806 3055] to guard against hot, dry winds.

9432
CSO: 4007/336

FIGURING AMOUNT OF GOODS OR FUNDS OWED TO COLLECTIVE

Shijiazhuang HEBEI RIBAO in Chinese 10 Mar 82 p 2

[Article: "How To Set Commune Member Payments for Collective Withholdings Following the Contracting of Work Tasks to Individual Households"]

[Text] How to set fixed amounts of products to be paid to the collective by commune members in production teams that have instituted a responsibility system of contracting work tasks to individual households is a major component in the perfection of responsibility systems. The equitability of amounts paid has a bearing on the major matter of whether the relationship among the state, the collective, and individual commune member can be handled correctly. Since specific situations of land, population, outputs, fixed procurement quotas, income, and indebtedness vary from one production team to another, the amount to be paid will also differ, so that is the proper amount to be paid? It has to be set after totaling the balance sheets.

First an equitable amount of collective consumption and collective accumulation has to be set. Following the contracting of work tasks to individual households, collectives must continue centrally to manage and distribute a certain amount of products and funds, using them to assure state requisition procurement and revenues, and to assure collective consumption and accumulation. The items and quantities for collective consumption require the figuring of two different accounts, namely the grain consumption account and the funds consumption account. Grain consumption includes, seeds and grain for livestock feed; grain allowances for cadres, livestock feeding personnel, teachers in civilian operated schools, electrical workers, and barefoot doctors; grain for the care of households enjoying the five guarantees [children and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's communes], dependents of martyrs and servicemen, and hardship households; and grain assistance given those sent elsewhere to work. Funds consumption includes money for grain consumption, production expenses uniformly paid in cash, management expenses, property depreciation expenses. In order to take further advantage of the superiority of the collective economy, following the contracting of work tasks to individual households, a certain amount of accumulation has to be retained. Before contracts are signed, this amount should be set on the basis of policies enacted by superior authorities in combination with the actual circumstances of the production team, the amounts for collective grain consumption, funds consumption, and accululation being decided upon one by one.

Second is calculation of centrally managed allocations of goods and sources of funds, income being balanced against outgo in a preliminary test calculation of the amounts of goods and funds that commune members will be required to pay. Following the contracting of work tasks to individual households, some production team collectives retained a small portion of land held in reserve for emergency use, and scattered plots of unused land, and they retained some economically diversified projects. These were generally contracted to the work force on specialized contracts. In this way, goods allocated under central management of the collective came from payments made by commune members contracting work tasks and from payments from specialized contracting. Funds allocated under central management came from the conversion into money of goods paid by commune members contracting work tasks, from payments out of net earnings from specialized contracting in farming, forestry, animal husbandry, sideline occupations, and fisheries, and from funds allocated by communes and brigades. By balancing income from sources of funds against expenditures of funds for use, it is possible to make a preliminary calculation of the quantity of goods and funds commune members will be required to pay. Some formulas illustrate this point.

Payment of goods (such as grain, cotton, and edible oil) from the contracting of work = state requisition procurement + collective consumption - payments from specialized contracting.

Funds paid from contracting for work = taxes + collective consumption = collective accumulations - net income payments from various specialized contracting.

Third, the products (grain, cotton, and edible oil) that should be paid by commune members converted into money terms are compared with the funds to be paid. Results of such a comparison can show three circumstances. First, payment of funds as the monetary value to payment with goods. This shows that the goods paid by commune members, no matter whether distributions in the form of actual goods or distributions in the form of value can be assured for the state or retained in sufficient amounts for the collective. When the total of the various goods to be paid are divided by the population (or the total land contracted for work), the amount of goods that each person (or each mu of land) should pay the collective is derived. Second, when the monetary value of the various goods paid is less than funds paid. This shows that in paying goods in this way, only distributions in the form of actual goods can be assured the state and sufficient amounts kept for the collective. However, the country has no assurance of distributions in the form of value and the collective will be unable to retain sufficient amounts. Under these circumstances, the funds shortfall will have to be converted to increased quantities of grain, cotton, and edible oil paid, so that the monetary value of goods paid will be equal to funds paid. Third is when the monetary value of various goods paid is greater than funds paid. This shows that when goods are thus paid, distributions in the form of actual goods may be assured the state and sufficient retention guaranteed the collective; moreover, there will be a surplus of distribution in the form of value of the funds paid. Under these circumstances, the quantity of goods paid cannot be reduced; reduced distributions in the form of actual goods cannot be carried out. Surplus funds may be converted into a certain quantity of goods and proportional payments of cash made to individual households.

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CSO: 4007/336

BRIEFS

SPRING RAINFALL--Most areas of Heilongjiang Province experienced spring rainfall from 1 to 4 May. Longjiang, Gannan, Tailai and Fuyu counties of Nenjiang Prefecture and Qigihar Municipality had heavy rainfall measuring 20 to 57 millimeters. The northern area of Heihe Prefecture and the central area of Nenjiang Prefecture had moderate rainfall measuring 12 to 19 millimeters. The rest of the province had rainfall under 10 millimeters. Drought in the southern area of Nenjiang Prefecture and the southwestern area of Suihua Prefecture has been alleviated. However, drought still exists in Zhaodong, Zhaozhou and Zhaoyuan counties. Waterlogging in the eastern area of Hejiang Prefecture is worsening. [SK060856 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 5 May 82]

PROVINCIAL FLOODS--According to an analysis of past flood cycles, water will still be abundant in the major rivers of Heilongjiang Province this year, and some rivers will possibly bring comparatively greater floods. According to statistical data, there were great floods in the rivers in northern China in the few years after the great floods in the rivers in southern China. For instance, the Chang Jiang had floods in 1930 and 1931 and Songhua Jiang had a flood in 1932. Chang Jiang and Huang He had floods in 1954, and then Songhua Jiang again in 1957. Since there were floods in Chang Jiang and Huang He in 1981, there may be great floods in the province in the following few years. According to the Central Weather Bureau, this year in most areas of the province precipitation will be 10 to 30 percent above normal. In southeastern areas, precipitation will be 20 to 30 percent above normal. In the eastern part of the province, plagued by waterlogging last year and which had rather abundant rainfall this spring, there may be continued and worsen waterlogging to cause disasters if heavy rain falls this year. [SK201007 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 19 May 82]

BEET SUGAR--Harbin, 18 May (XINHUA)--Heilongjiang Province, China's leading beet sugar producer, produced 365,000 tons of beet sugar in the 1981-82 pressing season, recording an alltime high, according to the provincial light industrial department. The figure represents a 15.5 percent increase over the previous season. The department attributed the increase to the policy of encouraging peasants to grow sugar beets and to a rise in the purchase price. Last year, 42 of the province's 64 counties produced 3.36 million tons of sugar beets, the department said. In an effort to expand the sugar refining capacity, the province has completed two new sugar refineries, and transformed and expanded 10 others, thus adding an annual refining capacity of 82,000 tons to the total. [Text] [OW201023 Beijing XINHUA in English 1203 GMT 18 May 82]

CSO: 4020/132

BRIEFS

WHEAT PRODUCTION MEETING--With the approval of the Henan Provincial People's Government, the Provincial Agricultural Committee held a meeting on inspection and assessment of wheat production, which lasted 6 days and concluded in Nanyang on 17 May. Responsible comrades of agricultural departments of all prefectures and municipalities and experts in wheat discussed the summer grain production situation in the province, looked into and arranged for summer farmwork and summed up experiences in wheat production. The meeting demanded that leaders at all levels formulate the programs for next year's wheat production. The meeting also demanded that leadership organs at all levels improve work style, reduce the number of conferences to a minimum and send a large number of cadres to grassroots units to help them solve practical problems in the course of production. [HK251429 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 20 May 82]

ZHOUKOU PREFECTURE COMBATS DROUGHT--Zhoukou Prefecture has taken an active part in combating drought and protecting wheat and spring-sown crops. Since the beginning of April, the drought situation in this prefecture has become more and more serious. Of the 7.2 million mu of wheat throughout the prefecture, 3.5 million mu of wheat has been seriously affected by drought. Because of the drought, the prefecture has been unable to sow some of its late fall harvested crops. To ensure the normal growth of wheat and spring-sown crops, the prefectural CCP Committee and the administrative commissioner's office promptly held various conferences, demanding that the cadres and the masses throughout the prefecture take effective measures and go all-out to combat drought. Relevant departments must vigorously support them materially and technologically to combat drought. At present, the prefecture is using 11,000 diesel engines, 4,500 motors, 1,900 irrigation sprinklers and 350,000 small agricultural machines and tools to combat drought. Fugou County has irrigated 290,000 mu of wheat. By 4 May, the prefecture had sown late fall harvested crops over 2.15 million mu and irrigated wheat over 1.1 million mu. [HK191335 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 8 May 82]

CSO: 4007/422

BRIEFS

PIG OUTPUT--Wuhan, 19 May (XINHUA)--Hubei Province had 13.61 million pigs by the end of March, an increase of 600,000 over the same period last year. The number of pigs in the province began a downward trend last year because of lack of fodder following the serious flood disaster in 1980. In view of this, the province took a number of effective measures to promote pig production, including distributing land to production teams for growing fodder. These measures are instrumental to the rise of pig production. [Beijing XINHUA Domestic Service in Chinese 0044 GMT 19 May 82]

PIG PROCUREMENT--At the Hubei provincial conference on pig production on the afternoon of 24 May, Huang Zhizhen, provincial CCP Committee secretary and vice governor, talked on the procurement of pigs, stressing that it is now the busy season for commune members to sell pigs to the state and relevant departments must not stop procuring pigs or limit the number of pigs procured. Relevant departments must also not temporarily leave behind, in the houses of commune members, the pigs which have been procured. Thus, we can protect commune members' enthusiasm for selling pigs to the state. The number of pigs raised and procured this year is more than that last year. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 25 May 82]

CSO: 4007/422

BRIEFS

RAPESEED HARVEST--A bumper rapeseed harvest has been reported from Yueyang Municipality, Hunan Province. The 105,000 mu of rape in the municipality produced 187,000 dan of rapeseeds, a 70 percent increase over the 1981 output. [OW061243 Changsha Hunan Provincial Service in Mandarin 1100 GMT 31 May 82]

BARLEY PRODUCTION--Changsha County, Hunan Province, harvested 873,000 jin of barley from 3,800 mu last winter. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 31 May 82]

COMMUNE, BRIGADE ENTERPRISES--After the readjustment, rectification and improvement of their management, commune and brigade enterprises in Hunan Province have tapped potential and carried out technical innovation and modification. As a result, they have greatly improved their economic returns. Last year, the labor force of commune and brigade enterprises throughout the province accounted for 7 percent of the total labor force of the rural areas and the income derived from their output accounted for 29 percent of the total income of the rural areas and was some 57 million yuan more than in 1980. Each 100 yuan of fixed assets of commune-run industrial enterprises made a profit of 11.5 yuan and each 100 yuan of circulating funds made a profit of 49.5 yuan. [Changsha Hunan Provincial Service in Mandarin 2310 GMT 8 May 82]

CSO: 4007/422

WEATHER REPORTING SERVICE ESTABLISHED FOR SPRING PLANTING PERIOD

Beijing RENMIN RIBAO in Chinese 18 Mar 82 p 2

[Article: "Jiangxi Provincial Meteorology Bureau Begins Meteorological Service for Spring Sowing. Helps Peasants Promptly Understand Weather Changes"]

[Text] Recently the Jiangxi Provincial Meteorology Bureau held a symposium on meteorological service for spring sowing attended by meteorology station chiefs and professional personnel and research personnel concerned from the province, prefectures, and municipalities. The symposium took up the subject of how to do a good job of meteorological service during spring sowing this year, making a comprehensive study of and working out actions to be taken on weather, climate, and agricultural meteorology.

Provincial, prefectural, municipal, and county meteorology bureaus set up spring sowing meteorology service teams headed by a bureau leader and staffed by technical mainstay cadres for forecasting, agricultural meteorology, and climate. The Provincial Meteorological Bureau required each meteorology station and post to statisticalize the frequency of disastrous weather, its route, its intensity, and the extent of damage done during the spring season (March-May) over the years in their local prefecture and county, the work to be completed before mid-March. This information was to be plotted on maps and charts for display outside forecast offices so that every forecaster would have a mental conception. When disastrous weather is in the offing, all posts and stations are to give strict attention to weather changes, set up 24-hour watch teams, and promptly organize technical mainstay cadres to hold consultations on the weather to make sure that no failures occur in reporting. The county bureau is to allocate a certain force to go into the frontlines of production to set up service liaison points in areas having different kinds of crops.

Jiangxi Province has established a meteorological service and intelligence network in three fields. One is a disastrous weather watch network in which the provincial meteorological stations and posts all participate. The second is a representative agricultural meteorology intelligence network set up by 20 county meteorology bureaus. Third is the radar monitoring network that includes weather radar installations at Nanchang, Jinggangshan, and Zhangzhou.

Right now the Jiangxi provincial meteorological system is in process of giving widespread publicity to spring sowing meteorology. They use publicity media such as newspapers, broadcasts, and television, and they publish various kinds of small meteorology papers. They have set up meteorology publicity signboards in country fair markets, making all possible efforts to transmit to the broad peasant masses spring sowing weather forecasts and agricultural meteorology intelligence so that they can promptly understand weather changes and use the science of meteorology to plan, plant, and care for their responsibility fields.

9432
CSO: 4007/336

JIANGXI

BRIEFS

GANZHOU PREFECTURE RAPESEED--Ganzhou Prefecture, Jiangxi Province, has reaped a bumper harvest of rapeseed with total output exceeding 221,000 dan, or 63.6 percent more than in 1981. Harvesting of rapeseed in Jiangxi's Shangrao Prefecture is near completion. It is estimated that the prefecture's total rapeseed output will reach 583,577 dan, or an increase of 13.73 percent over 1981. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 25 May 82]

CSO: 4007/422

BRIEFS

YANJI COUNTY ANTI-DROUGHT--Jilin Province's Yanji County has been hit by a relatively serious drought this spring. To counter it, leading comrades of the county CCP Committee and people's government led the masses to seize the opportune time to conduct spring plowing and sowing. Over 40 percent of arid farmlands have been sown. [SK031033 Changchun Jilin Provincial Service in Mandarin 1100 GMT 2 May 82]

CSO: 4007/422

FIELD CROP SOWING COMPLETED

SK160847 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 15 May 82

[Text] According to our contributing reporter (Zhou Jinqiang), the sowing of field crops has been basically completed throughout the province. According to statistics compiled on 13 May, 88.2 percent of the planned acreage for field crops were sown. The sowing of field crops has been finished in all areas except for a few places in the western and southern parts of the province where the sowing is not yet finished due to serious drought.

This year, the sowing of field crops has taken place under a serious drought. In the face of the drought, the broad masses of commune members and cadres in various localities [sentence indistinct] have tried in every possible way to combat drought. Chaoyang Prefecture made the best use of soil moisture to sow field crops. [Sentence indistinct] When the drought was alleviated somewhat as a result of two propitious rainfalls, commune members went all out to set off an upsurge in spring sowing and thus accelerated the tempo of that work.

While mapping out farming plans, all localities paid attention to readjusting the grain-growing acreage and properly arranged the acreage sown to cash crops and maize under the prerequisite of stabilizing the grain areas. Compared with the corresponding 1981 period, maize-growing acreage in the province decreased some 2 million mu and sorghum growing acreage increased 1.17 million mu. In Jinzhou, Yingkou and Liaoyang municipalities and in Chaoyang Prefecture, some 697,000 mu of cotton were sown, exceeding the plan by 16.3 percent.

The province has also made progress in scientific farming this year. The vinyl-covered areas for growing peanuts, cotton, tobacco and vegetables totalled 292,000 mu, 4.3 times that of 1981. This year, Fushun Municiplaity has made arrangements for eight scientific experimental items for growing paddy rice, soybean, millet and peanuts. The acreage sown to [words indistinct] of soybean on experimental basis is over 200,000 mu, accounting for 70 percent of all soybean fields.

The transplanting of rice seedlings is in full swing in the province. According to statistics, Shenyang and Yingkou municiplaities and Donggou and Fushun counties transplanted some 300,000 mu of rice seedlings as of 13 May.

CSO: 4007/422

BRIEFS

INSECT PESTS--Since late April, insect pests have been reported in farmlands and orchards. This has aroused the attention of departments concerned. Steps have been taken to eliminate them. A certain moth spread over 1.1 million mu of mountainous area in Liaoyang County. Scarabs have been discovered in some communes in Jin County. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 17 May 82]

PROVINCE PROFITS FROM AFFORESTATION--The Liaoning Provincial CCP Committee and the people's government convened a forum on developing the province's eastern mountainous areas 7-12 May in Fushun. Forum participants contended that great progress has been achieved in the implementation of the policy of comprehensive development with stress on forestry in the eastern mountainous areas. Practice has shown the correctness of this policy. In the future, we must persistently implement it. During the past 3 years, about 1 million mu of trees were planted in the eastern mountainous areas. Consequently, water and soil have been better conserved. Grain output has stabilized at 2 billion jin or more. Grain rations of commune members have increased to 489 jin from 435 jin. As the collective economy has increased continuously the per capita income has increased from 91 yuan to 116 yuan. [SK201012 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 18 May 82]

COUNTY SEEDLING GROWING--Liaoning Province's Changtu County was stricken by drought and low temperatures in the late stage of spring sowing and plowing this year. According to an investigation made by the county agriculture department, seedlings on 200,000 mu of cornfields are poorly developed and are third grade seedlings. If we fail to adopt remedial measures, the county may suffer a reduction of grain output by 110 million jin. To counter this, the county CCP Committee and the people's government invited agronomists and agricultural technicians to discuss ways to promote and accelerate the growing of third grade seedlings. Now some 170,000 laborers are joining this task. Some 39 million mu of field crops have been replanted, 280,000 mu have been banked and 360,000 mu have been leveled. [SK242210 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 23 May 82]

COTTON PRODUCTION--Chaoyang Prefecture in Liaoning Province had cultivated 272,000 mu of cotton by 15 May, overfulfilling the state plan by 43.3 percent. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 19 May 82]

PROVINCIAL RAINFALL--Being without any heavy rainfall in the past 30 months, Chaoyang Prefecture, Liaoning Province, had two heavy rainfalls on 27 April and on 2 to 4 May. Spring sowing is in full swing as soil moisture is sufficient. Over 400,000 mu of farmlands are sown in the prefecture every day. [SK070514 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 6 May 82] Rain fell in most of Liaoning Province from the night of 18 May. As of 1400 on 19 May, Kuandian County had 37 millimeters of rain. Precipitation in Tianling Prefecture, most of the Dandong area and the eastern part of Benxi area ranged from 11 to 18 millimeters. Other areas had rainfall totalling 4-10 millimeters. The Dalian area and most of Jinzhou had only 1-3 millimeters. This rain is beneficial to the seedling emergence of field crops and the growth of vegetables. However, due to scanty rainfall, drought in the southern part of the province remains serious. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 19 May 82]

CSO: 4007/422

BRIEFS

CASH CROP--Ulanquab League in Nei Monggol region has expanded its seasame sowing acreage to 1.71 million mu in 1982, an increase of 400,000 mu over the previous year. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 May 82]

SHEEP BREED--A new breed of sheep, developed by livestock scientists in Nei Monggol after 30 years of efforts, has passed an acceptance test by a relevant state department and was designated by the regional people's government as Aohan thin-hair sheep. Now the region has 300,000 head of such. Last year the region sold 7 million jin of wool of these sheep to the state. [SK262233 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 25 May 82]

RURAL CONSUMPTION--Supply and marketing departments have organized great qualities of manufactured goods to rural areas. During the first 4 months, they supplied means of agricultural and livestock production worth 78 million yuan and daily necessities worth 390 million yuan. These are increases of 16.9 and 7.5 percent respectively over the corresponding 1981 period. Peasants and herdsmen in rural areas have shown unprecedented enthusiasm in purchasing means of production. By the end of April, 256,100 tons of chemical fertilizer had been sold in the region, up 19.9 percent over the corresponding 1981 period. Some 3.68 million small farm implements had been sold, an increase of 34.1 percent over the corresponding 1981 period. [SK220901 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 May 82]

REGION HELPS BACKWARD AREAS--The Nei Monggol Regional People's Government decided to allocate 30 million yuan from the state funds which were appropriated to the region for developing economically backward areas in 1982 to help old revolutionary bases, mountainous areas, remote areas, pastoral areas and backward areas develop production. This fund will be used this year to establish 10 rejuvenating forest areas, six banners, counties and communes that can ensure a comprehensive development of agriculture, animal husbandry and forestry and four collectively-owned mechanized agricultural and livestock farms and to help minority people raise animals. Hohhot Municipality and Ih Ju, Ju Ud, Bayannur and Alxa leagues have also donated 4 million yuan to support this work. [SK242212 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 May 82]

MARKETABLE GRAIN BASE--Ju Ud League in Nei Monggol region has decided to build a 4-million-mu key marketable grain base managed by 600 brigades in (Chengchuan) District. It is expected to raise the per-mu yield from 300 jin to 400 jin to achieve a grain output of 1.6 billion jin in 1985, which will be 66 percent of the league's total. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 May 82]

ARTIFICIAL RAIN--In support of Nei Monggol's drought combat work, the State Council and the Military Commission of the CCP Central Committee on 11 May dispatched planes to make artificial rain in areas between Qilian County in Qinghai and Togtoh County in Nei Monggol. The artificial rain is conducive to the agriculture of Nei Monggol's Tomochuan areas. [SK201010 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 May 82]

COLD SPELL--Nei Monggol Regional Meteorological Observatory released a forecast of strong winds and cold weather at 1700 on 14 May. A cold spell will move into the region on the early morning of 15 May. Most areas in the central and eastern parts of the region will be hit by 7 to 8-class strong winds and will experience a slight or medium amount of rain and snowfall. From the afternoon of 15 May to 17 May, temperatures will drop 8 degrees. Other areas in our region will be hit by a 6-class wind. [SK172202 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 14 May 82]

REGIONAL RAINFALL--On 11 May, light to moderate rains fell in central and western areas and heavy rains fell in a few areas of Nei Monggol region. Even the southern area of Alaxa League and western Ih Ju League, which had very little rains last year, had 7 to 18 millimeters of precipitation on 11 May. Hulun Buir, Xingan, Jirem, Ju Ud, Xilin Gol and Ulanqab leagues and Hohhot, Baotou and Wuhai municipalities have enough soil moisture. Drought in other areas of the region has also been relieved. [SK131308 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 12 May 82]

CSO: 4007/422

BRIEFS

PROVINCIAL RAINFALL--According to a report by the Shaanxi Provincial Meteorological Bureau, on 26 and 27 April it rained in Shaanxi Province and the rainfall in the larger part of this province varied from 10 to 15 mm. The rainfall in Suide, Qingjian, Yanchang, Luochuan, Fugu and Yanchuan counties in north Shaanxi, Xian Municipality and Gaoling, Lantian and Fengxiang counties in Guangzhong and Hanzhong and Hanyin counties in south Shaanxi was 16 to 20 mm. The fainfall in Zhidan, Changwu, Baoji, Lintong, Weinan, Hua Yang and Xixiang counties was 21 to 40 mm. This rainfall has alleviated the drought situation in some places in north Shaanxi and Guangzhong and is beneficial to spring sowing and to the growth of summer crops. [HK051511 Xian Shaanxi Provincial Service in Mandarin 1130 GMT 29 Apr 82]

CSO: 4007/422

TANFANG PREFECTURE PROMOTES FARM MACHINERY MANAGEMENT RESPONSIBILITY SYSTEM

Jinan DAZHONG RIBAO in Chinese 10 Feb 82 p 2

[Article by Li Shanquan [2621 1472 3123]: "Tanfang Prefecture Implements the Farm Machinery Management Responsibility System--Farm Machinery Managed Well and the Economic Gain Is High"]

[Text] Tanfang Prefecture has actively implemented the farm machinery management responsibility system and has realized visible economic results.

In recent years, the number of farm machinery units has continued to increase in Tanfang Prefecture. At present, the whole prefecture already owns 33,091 tractors, and the total power of farm machinery has reached 380,000 horsepower. The total value of fixed assets in farm machinery has reached over 500 million yuan, constituting over one-third of the fixed agricultural assets of the whole prefecture. To further manage and use these units of farm machinery well, the committee of Tanfang Prefecture and the administrative office studied and decided to further strengthen and perfect the farm machinery management responsibility system, improving the percentage of farm machinery in good condition and the rate of utilization so that the machinery can fully develop its function in production. To implement the farm machinery management responsibility system, they held farm machinery management cadre training classes at each level to train a backbone force in farm machinery management. Later, each county and city implemented different forms of the farm machinery management responsibility system by suiting measures to local circumstances according to the actual situation of the locality. According to statistics, among the 237 commune tractor stations throughout the prefecture, 50 stations have implemented contracting tractors to professionals and sharing a percentage of the profits, constituting 24 percent. There are 138 stations that have implemented accounting for each tractor and the five quotas and one reward system, constituting 58 percent. There are 12 stations that have implemented the system of floating wages with rewards, constituting 5 percent. There are 15 stations that have implemented conprehensive contracts, constituting 6.5 percent. There are 15 stations that have implemented quota management, constituting 6.5 percent. There are 10,104 units of production teams and brigades throughout the prefecture that have farm machinery. Among them, 21 percent have implemented contracts to specialists and linking remuneration with production, and 42 percent have implemented unified management and accounting for single machinery units, 9 percent have implemented the system of comprehensive contracts with several unified categories, and 28 percent have implemented fixed quota management.

The implementation of the farm machinery management responsibility system has unified authority, responsibility and profits, and cadres and commune members have strengthened self-awareness in managing and using farm machinery well. For example, the Dawangzhuang farm machinery team of Chengguan Commune, Gaomi County, implemented contracts to specialists. The percentage of farm machinery in good condition reached above 90 percent. Mechanized farming reached over 80 percent. In the past, this brigade suffered losses of over 10,000 yuan in farm machinery each year. Last year, the farm machinery team submitted over 30,000 yuan in profits to the brigade and kept 16,500 yuan. Each farm machinery operator received a reward of 359 yuan. As the level of agricultural mechanization rose, this brigade freed 76 percent of the labor force to engage in industrial and sideline production and the economic revenue of the collective continued to increase.

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CSO: 4007/252

BRIEFS

COTTON APHID PEST--According to information released by the Shandong provincial crop disease and the insect pest investigation station, the current dry and hot weather is good for growth and reproduction of cotton aphides. The aphid density is rising quickly. In some areas, about 30 to 50 percent of cotton crops are hit by aphides, and there are over 500 aphides in each 100 cotton plauts. [SK252210 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 May 82]

CASH CROP PLOTS--Jining Prefecture, in Shandong Province, has strived to improve economic returns in developing a diversified economy by vigorously attending to cash crop plots. The prefecture's income from the diversified economy totaled 360 million yuan for the first 4 months of this year, up 39 percent over the corresponding 1981 period. Avoiding cutting into good farmland, communes and brigades in the prefecture have expanded cash crop plots to 580,000 mu from last year's 320,000 mu. [SK172206 Jinan Shandong Provincial Service in Mandarin 2300 GMT 14 May 82]

WINDS THREATEN WHEAT GROWTH--Since May, wheatfields in Shandong Province have been repeatedly hit by hot and dry winds. Over 40 million mu have been affected. Hot and dry winds came earlier this year, were stronger and wrought more havoc than last year. Except for Jining Prefecture, the southern part of Weifang Prefecture and the middle part of Linyi Prefecture, most wheatfields in the province have been hit by winds. [SK262223 Jinan Shandong Provincial Service in Mandarin 2300 GMT 25 May 82]

LIAOCHENG PREFECTURAL AGRICULTURE--Jinan, 26 May (XINHUA)--Liaocheng Prefecture, Shandong, is growing 4 million mu of cotton. It produced 3.66 million dan of cotton in 1981. It also grows 3 million mu of wheat. [OW300843 Beijing XINHUA Domestic Service in Chinese 0155 GMT 26 May 82]

CSO: 4007/428

PROVINCE TAKES MEASURES TO RECOVER FROM WINDSTORM

HK200310 Taiyuan SHANXI RIBAO in Chinese 9 May 82 p 1

[Report: "The Provincial Agricultural Department Demands That the Province Urgently Mobilize to Overcome the Windstorm Disaster and Strive for a Bumper Harvest"]

[Text] Editor's note: In early May, our province was hit by a low-temperature windstorm from the north to the south and the production of wheat, cotton and vegetables was damaged. We must neither despair nor slacken our vigilance in the face of this natural disaster. Leading members at various levels must go to the frontline, urgently mobilize the masses, the effective measures, combat the disaster and provide disaster relief, and strive to repair the damage caused by the disaster. All departments and trades must also take action, actively allocate and transport materials and support the peasants in combating the disaster and striving for a bumper harvest. [End editor's note]

Beginning during the night of 1 May to 3 May, a windstorm and falling temperatures struck our province. In most places, wind reached force 59 to force 8 (on the Beaufort scale) and in some places, it reached as high as force 11 and force 12. Such a windstorm had never been seen before in our province. The production of wheat, cotton and vegetables was damaged. To combat natural calamities and strive for a bumper harvest, the provincial agricultural department has put forth three concrete measures a few days ago.

This windstorm has adversely affected the growth of wheat. At present, wheat in the southern part of Shanxi is in the initial period of flowering and filling. Due to the intensity of the windstorm and the loss of water content, the pollination is low and the boot leaves of the wheat suffer from root lesions. A small amount of the wheat, which had been too closely sowed, is suffering from lodging. According to the statistics of Yuncheng Prefecture, some 411,000 mu of wheatfields in the whole prefecture have obviously been affected by the disaster. The seedling cotton has also been damaged by this windstorm. According to incomplete statistics from Hongkong Yicheng, Xiangfen, Fushan and Ji Xian counties and Houma Municipality in Linfen Prefecture, about 30,000 mu of cotton plants had their seed leaves tore off. This year, the area of cotton plants protected by plastic sheets has increased throughout the province. In the portion of cottonfields where the plastic sheets had not been properly secured, cotton seedlings were damaged as a result of the plastic sheets being tossed by the wind. In Yuncheng Prefecture, some 6,000 mu of cottonfields had their plastic sheets ripped or blown away. The cotton seedlings lost their seed leaves as a result and they have ceased growing.

This windstorm also damaged vegetable production in urban suburbs. According to preliminary statistics from Qingxu County and the northern and southern suburbs of Taiyuan Municipality, more than 8,000 mu of vegetables have been affected. Of the 839 plastic covered sheds in the whole municipality, about 550 were damaged or destroyed. Of the 30,000 hothouses and more than 3,000 mu of plastic sheet covered vegetable fields in the municipality, about a third had their plastic sheets lifted or their hothouse installations destroyed. Five of the communes in the suburbs of Changzhi Municipality have been more seriously hit by the disaster. Of the 200 large-size plastic covered sheds in Datong Municipality, some 10 have been destroyed.

In view of the above-mentioned conditions, the provincial agricultural department has called on various localities to strengthen leadership over disaster relief work, adopt corresponding remedial measures according to the extent of crop damage as a result of the disaster, and reduce the damage caused by the disaster to a minimum.

1. As for wheat, they must strengthen irrigation and spraying of phosphatic fertilizer. On the one hand, they must restore the vitality of the wheat affected by the disaster as quickly as possible; on the other hand, they must take precautionary measures against high temperatures and try to increase the kernel weight of the wheat by means of adding water and fertilizer in suitable amounts.

2. As for cotton, they must continue to grasp firmly and properly the work of examining cotton seedlings and carrying out replanting. They must quickly mobilize the masses to adopt such methods as cultivating seedlings at the edge of fields, cultivating seedlings in breeding bowls, carrying water for replanting, and carrying out field cultivation transplanting to ensure that the cottonfields will be fully and adequately planted and the seedlings will grow healthy. At the same time, they must conscientiously inspect plastic sheets used to protect the cottonfields and promptly repair and reuse them. Places with suitable conditions should promptly carry out preparatory work for the resowing of cotton and strive to resow a bit more cotton.

3. As for vegetable production, they must mobilize the vegetable farmers to take corresponding measures in the light of different installations, different seedling conditions and different disaster conditions, actively repair the sheds, mend the holes and strengthen the large-size sheds and hothouses. They must repair and rebuild the medium and small-size sheds and hothouses, set up racks and carry out irrigation at the proper time in accordance with the characteristics of different varieties of vegetables and carry out the transplanting and replanting of vegetable seedlings affected by the disaster so that vegetable production can be restored to normal as quickly as possible.

CSO: 4007/422

BRIEFS

COMMUNES' DISTRIBUTION WORK--Rural people's communes in Sichuan Province have completed the work of distribution of earnings for 1981. According to the statistics of the provincial agricultural department, despite serious floods in 1981, there was an increase in grain output, investment results and commune members' grain rations. The province's total grain output in 1981 was 620 million jin more than in 1980, and the total earnings of the collectives and the earnings distributed reached 11 billion yuan in 1981. Total expenditures of the province decreased from 3.9 billion yuan in 1980 to 3.6 billion yuan in 1981, and each person in the province saved an average of 3 yuan on each expenditure. [HK130747 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 7 May 82]

CSO: 4007/422

BRIEFS

PREFECTURE COW BREEDING--Lhasa, 23 May (XINHUA)--Xizang's Shannan Prefecture actively develops milk cow breeding. It has a total of 177,400 cows, an average of 3 cows per family. About 46 percent of these cows are raised by individual commune members. [Beijing XINHUA Domestic Service in Chinese 0025 GMT 25 May 82]

CSO: 4007/422

THREE-WAY COMPLEXES LEAD TO HIGHER OUTPUT

Kunmin YUNNAN RIBAO in Chinese 9 Feb 82 p 2

[Article by Li Shuliang [2621 2885 2733] et al: "Agriculture-Industry-Commerce Integrated Complexes Under Our Province's Agriculture and Land Reclamation System Are Being Run Better and Better"]

[Text] In the 2 years since the five agriculture-industry-commerce integrated complex companies were set up under our province's agriculture and land reclamation system, they have been run better and better with notable results, fully reflecting the superiority of a coordinated process in agriculture, industry, and commerce.

Specifically there have been some changes, as below:

According to statistics of the general company for the agriculture-industry-commerce integrated complex, last year the five integrated complex companies--Longchuan, Suili, Liming, Chuncheng, and Miqin Dongfeng--rapidly improved their economic results, increasing their total output value by 13.14 million yuan, or 26 percent, over that of some previous years; in 1979, before these five enterprises formed companies, they lost a total of 5.8 million yuan, but last year the companies made a total profit of 6.56 million yuan, or a 166 percent increase over the total profit in 1980.

The tapping of many kinds of managerial sources has changed the past state of affairs created by single-management forms in which "the state was depended on for spending money, the locality for staple food, and the market for non-staple food." Last year the five companies provided the state and markets in various places with over 100 kinds of agricultural and subsidiary products, among which were over 13,700 tons of white sugar, over 600 tons of pork, over 2.5 million jin of milk, 459 tons of powdered milk and malt-milk extract, as well as a great amount of white spirits, wine, candy, sweet cakes, cold drinks, prepared food, vegetables, flowers and plants, fruit, furniture, hardware, and farm tools.

While the province increased its production of commodities, it also expanded the channels for circulation of commodities. The provincial office has signed purchasing and selling contracts with about a dozen provinces, municipalities, and autonomous regions, and within the province the five companies have 167 new commercial network outlets; last year their sales totaled over 20 million yuan, double that of the year before last.

Enlivening country fair trade has promoted price stability. In the past, staff and workers on farms mainly depended on the market for the supply of meat and vegetables, and because there was a great deal of buying on the market the prices of nonstaple foods there were higher than in the city. Now the farms are continuously developing pig raising and the staff and workers are nore than self-sufficient in meat. With plenty of food on the market, the county fairs have been enlivened and price stability promoted, and in particular the prices of meat and vegetables have been stable and in some cases have fallen. Last year the Ruili and Longchuan integrated complex put over 200,000 jin of pork on the market, and the price per jin was about 1 yuan 1 jiao. The vegetables put on the market by Dongfeng Farm account for about half of the total amount on the local market.

The prosperous border area economy promotes the construction of small cities. The three agriculture-industry-commerce integrated companies of Longchuan, Liming, and Dongfeng are located far from the county seat. Around the companies small cities have now been built, with residential areas for staff and workers with lower and middle schools, stores, hospitals, motion picture theaters, bookstores, restaurants, cold drink shops, barber shops, tailor shops, repair shops, depots, and hostels.

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CSO: 4007/257

PREVENTION OF SPREAD OF MAJOR POISONOUS WEEDS NOTED

Kunming YUNNAN RIBAO in Chinese 31 Jan 82 p 2

[Article by Ye Long [5509 7893]: "Beware of the Spread of Eupatorium Japonicum and Eupatorium Odoratum--Our Province's Plant Protection Experts Point Out that These Two Harmful Weeds Must Be Eliminated"]

[Text] The harmful weeds that seriously threaten the development of livestock, forestry and agriculture--eupatorium japonicum and eupatorium odoratum--have already begun to spread in our province. We should be more alert. This is the call made by plant protection experts and scientific and technical workers who joined the Weeds Research Committee recently founded by the Provincial Plant Protection Society in Kunming.

They pointed out that there are many harmful weeds that endanger our province's livestock, forestry and agriculture, especially eupatorium japonicum and eupatorium odoratum, which pose the most serious threat. These two harmful weeds have a broad adaptability, and they grow and spread very quickly. As soon as they are introduced, they grow to 20 to 40 centimeters during the first year and in the second year they grow to over 80 centimeters. These two harmful weeds have already spread gradually from Simao, Linchang and Baoshan prefectures to Chuxiong, Honghe, Wenshan and Kunming areas. The area damaged by the weeds in Simao and Linchang prefectures alone has reached over 1 million mu. These two harmful weeds affect the growth of grazing grasses in the mountains, young forests and agricultural crops. The damage they cause is described as follows: 1. After these two harmful weeds propagate, grow and spread, they stifle the growth of grazing grasses, young forests and agricultural crops; 2. Livestock that consumes these grasses will suffer from dysentery and asthma and even die. The pollen will also cause rotting of the eyes and nose, and cause pus. A horse at the horse barn in Zhenkang County mistakenly consumed eupatorium japonicum and almost all the horses in the horse barn died. Now these two harmful weeds are spreading continuously. This is very detrimental to the development of livestock production, forestry and agriculture.

How can these two harmful weeds be exterminated? Plant protection experts and scientific and technical workers believe the ideal method is to develop competitive grazing grasses and economic forests to replace these two harmful weeds. Such research and experiments have been conducted by experts and scientific and technical workers. At present, each locality should pay attention. Whenever these two weeds are discovered, the masses should immediately be organized to eliminate them. Localities already suffering damage by the weeds can use picloram, glyphosate, 2, 4-D weeders to eradicate them. In addition, the area of cultivated land must be fixed to prevent land from going to waste and grazing grasses from going to waste.

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CSO: 4007/252

YUXI PREFECTURE TAKES STEPS FOR BETTER TOBACCO PRODUCTION

Kunmin YUNNAN RIBAO in Chinese 30 Jan 82 p 1

[Article by Shu Quan [2885 0356] et al: "Yuxi Prefecture Draws Up Plans for This Year's Flue-Cured Tobacco Production Early"]

[Text] At the beginning of the new year, the administrative office of Yuxi Prefecture conscientiously analyzed the situation of this year's production of flue-cured tobacco with the determination to even better display the superiority of Yun tobacco, to vigorously tackle the key problem of quality, and to further improve the capacity for market competition, and to improve economic results.

The Yun tobacco of Yuxi Prefecture is well known throughout the country, is the main ingredient for top-grade cigarettes in Beijing, Shanghai, and other places, and is exported to West Germany and other countries. In recent years, the quality, output, per unit area yield, and income of the flue-cured tobacco here have in consecutive years reached the best levels in history. Last year, the prefecture's total output and the purchased amount of flue-cured tobacco both increased by more than 60 percent over those of the previous year, the income of the collective and the commune members more than doubled, and for the first time the proportion of top- and high-grade tobacco broke through the 70-percent mark.

In view of this success, the administrative office of the prefecture analyzed the nationwide trends in flue-cured tobacco development, and concluded that under the new conditions in which the output of flue-cured tobacco is rapidly increasing throughout the country, and in which the amoung of high- and medium-grade leaf tobacco and cigarettes required by domestic and foreign markets has grown, only by improving the quality of flue-cured tobacco and seeking high output with top quality can the prefecture's competitive capacity be strengthened and new markets be opened up. Therefore, the party committee and the administrative office of Yuxi Prefecture are helping all of the counties in the prefecture to vigorously tackle the key problem of the quality of their flue-cured tobacco, and plans this year to raise the proportion of high- and medium-grade tobacco to over 75 percent, thereby obtaining even better economic results than last year.

In order to insure a high output of top quality flue-cured tobacco this year, work has already started on the following items: (1) The prefecture held a top quality-high output experience exchange meeting, which analyzed the potential for top quality and high output of flue-cured tobacco, exchanged and introduced experiences in this respect; and also issued silk banners and certificates of merit to advanced units and commune members for top quality and high output of flue-cured tobacco, encouraging them to further improve the quality of flue-cured tobacco and spur on others. (2) To help the production teams perfect the scientific and technical responsibility system, the prefecture has listed quality improvement as the principal part of contracts. (3) The prefecture is accelerating the training of the flue-cured tobacco cultivation technical force to spread knowledge of scientific tobacco planting. People attending the county- and commune-run flue-cured tobacco training class have completed the course, and these people have already gone to the communes and production teams to explain to the commune members the science and technology of flue-cured tobacco. (4) The prefecture increased the building of curing sheds. The counties have decided to build over 6,800 curing sheds, of which construction has already begun on over 2,300. (5) The prefecture got a good grip on the work of cultivating strong sprouts and of scientifically applying fertilizer. A batch of production teams in Yuxi and Jiangchuan counties arranged tobacco seedbeds well ahead of time, and began to work hard to change the fertilizer structure. (6) The prefecture organized various departments concerned to do well ahead of time the work of supplying materials, funds, and technology for flue-cured tobacco production.

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CSO: 4007/257

SIX COUNTIES TRY OUT S&T RESPONSIBILITY SYSTEM

Kunmin YUNNAN RIBAO in Chinese 10 Feb 82 p 1

[Article by Wu Ronghua [2976 2837 5478] et al: "Great Achievements Made by Science and Technology Combined Output Responsibility System"]

[Text] The agricultural departments, the scientific and technological departments, and the scientific and technological teams of some communes and production brigades of six counties--Yuxi, Tonghai, Eashan, Yimen, Jiangchuan, and Yuanjiang--have tried out the scientific and technological combined output responsibility system, adopting and signing contractual forms to spread agricultural science and technology. In this, they have achieved marked results. Last year all 33 of the contracts signed for the scientific and technological combined output of spring-sown crops resulted in increased output and harvests, and all commitments for awards and compensation were honored.

After various forms of the agricultural production responsibility system were established in rural communes and brigades in various counties of Yuxi Prefecture, the prefecture successively requested the agroscience departments to help the peasants solve some difficulties encountered in production in order to strive for superior quality and high output in grain and economic crops. In March 1981, the Yuxi Prefectural Science Committee organized prefectural and county agricultural departments, scientific and technological departments, and the agroscience stations of some communes to sign 33 scientific and technological combined output contracts, covering a total area of 13,986 mu, with 1 production brigade, 33 production teams, and 2 peasant households in the above-mentioned 6 counties for raising paddy rice seedlings, changing low-output paddy rice to high-output paddy rice, stabilizing the output of high-output paddy rice, spreading improved varieties of corn, and achieving excellent quality and high output of flue-cured tobacco. The result of the autumn harvest was that increased outputs and increased harvests were achieved contract by contract. For the raising of paddy rice seedlings, 17 jin 3 liang were planted on every mu of land for growing field crops, 14 jin 7 liang less than previously, or a savings of 46 percent; the per unit area yield on the area of 11,708 mu of paddy rice covered by 20 contracts reached 920 jin, an increase over the figure for the year before last of 112 jin 3 liang, or 13.9 percent; on the 158 mu 4 fen of land under flue-cured tobacco contracted for by agroscience institutes in Tonghai, Yuxi, and Yimen counties, good quality and high output were obtained, the average per mu output value increasing by over 40 percent with the highest increasing by over 200 percent; and on the 242 mu 4 fen of land under corn covered by 5 contracts, marked output increases were obtained, with the average per mu output increasing by 40 percent and the highest increasing by 95 percent.

By implementing the agricultural science and technology combined output responsibility system, the prefecture has broken free from the past method of spreading the fruits of science and technology by administrative order, so that authority, responsibility, and benefit have been closely integrated and so that the enthusiasm of the scientific and technical personnel and of the commune members has been aroused quite well. The scientific and technical personnel are conscientious about their responsibilities, and they go to the fields to teach by personal example as well as verbal instruction; the commune members are conscientious about receiving instruction, and they till the land according to instructions from the scientific and technical personnel, which gives joy to the latter and satisfaction to the masses. For the success in the raising of paddy rice seedlings contracted for by the agrotechnical station of Yuanjiang County, the production teams on their own initiative urged the technicians to receive a well deserved bonus, and proceeded to sign contracts for high output of rice and corn.

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CSO: 4007/276

BRIEFS

PREFECTURE FIGHTS DROUGHT--Yunnan Province's Dali Autonomous Prefecture has organized work teams to promote water storage work among peasants in order to counter potential drought. The leaders of the prefectural CCP Committee and prefectural people's government have led seven work teams to go to counties where the situation of water supply was the worst to inspect and promote building of water conservancy projects. As a result, an adequate amount of wells and channels were dug in order to ensure water supply during dry seasons. [HK251001 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 15 May 82]

CSO: 4007/422

TIE YING ON IMPROVING PROVINCE'S FISHERY

HK210921 Beijing RENMIN RIBAO in Chinese 15 May 82 p 2

[Article by Tie Ying, first secretary of Zhejiang Provincial CCP Committee: "Several Questions Concerning the Development of Offshore Fishery"]

[Text] Summary of article: This article expounds on the following five problems related to the development of offshore fishery in Zhejiang Province: First, since Zhejiang is a province with a vast stretch of sea area and rich aquatic resources, offshore fishery is very important in the province's national economy. Second, the policies for the development of offshore fishery should be clearly understood. These policies are to go outward to open up outer offshore fishing grounds, to emancipate people's minds in vigorously developing aquatic breeding in beach and shallow sea areas, and to conscientiously develop the processing and comprehensive exploitation of aquatic products. Third, since there are both sea areas and mountain areas in fishing districts, we should vigorously utilize the favorable conditions provided by both the sea and the mountains and develop diversified undertakings. Fourth, we should implement various forms of the production responsibility system geared to fishery in the light of local conditions and continuously to perfect the system in practice. Fifth, we should strengthen aquatic scientific research, do a good job of investigating the aquatic resources, popularize cultural education and scientific and technical knowledge in the fishing districts and train a new generation of fishermen. [End of summary]

Since the 3d plenary session of the 11th CCP Central Committee, there has been a fine situation in the offshore fishery in Zhejiang Province. This is mainly shown by the following facts: 1) By implementing the policy of readjusting the national economy we have gradually readjusted the structure of our aquatic production, protected our offshore aquatic resources, developed aquatic breeding, and the processing of aquatic products and other diversified undertakings. 2) We have set up and perfected various forms of the production responsibility system geared to fishery which gives play to both the superiority of the collective economy and the initiative in production of individual commune members. Thus we have fulfilled in a relatively satisfactory manner the quotas of purchases and transferences of aquatic products assigned by the state. 3) Along with the development of production and with the changes resulting from the implementation of the policies of raising the purchase prices of aquatic products and allowing negotiable premiums for those goods purchased in excess of the purchase quotas, there have been substantial increases in both the accumulation of the collectives and the income of individual commune members.

The problems we should study are: First, why for more than a decade the annual output of our offshore aquatic production has remained within the range of 14 to 15 million dan and how can we make a breakthrough in increasing production. Second, the problem of the steady decline in the supply of fish for our urban and rural people. In 1981, the average supply of fish per capita at the provincial fixed prices is only 8.9 jin and the quality of the fish supplied is relatively poor. How can we solve the problem of "difficulties in buying fish in an area that was once called the 'land of fish and rice?'" And third, in our fishing areas, 25 percent of the total labor force is redundant. How can we find employment for such a large surplus labor force? The Zhoushan Prefectural CCP Committee has clearly pointed out, "The people want fish to eat and the fishermen want employment. What should we do?" It has called on the cadres at all levels throughout the prefecture to discuss in depth this problem.

Faced with this situation, we are of the opinion that in order to develop offshore aquatic production in our province, we have to further study and solve the following problems:

I. A Full Understanding of the Importance and Role of the Development of Offshore Fishery in Developing Our Province's Economy

There is a vast stretch of ocean area in Zhejiang Province with abundant aquatic resources, which provides great potential to tap in developing economy. This ocean area stretchs from 27 to 31 degrees north latitude, and to the east it extends to the edge of the continental shelf. Its total area is 223,000 kilometers, which is more than twice that of land area of the province. However, we have as yet failed to exploit quite a large part of these aquatic resources to benefit our people. An example of the offshore fishing alone is enough to prove this. Our fishing is chiefly carried out in the fishing grounds along or near the coast. As for the fishing grounds in the outer aquatic areas which lies beyond the 80 meter isobath, we seldom fish there though its area is as large as 98,000 kilometers, which constitute 44 percent of the total aquatic area of the province. Another example is aquatic breeding. We have only utilized 10 percent of the 1.5 million mu of beach and shallow sea area along the province's 2,200 kilometers of coastline that can be utilized for aquatic breeding. Moreover, the output of those areas that we have utilized in aquatic breeding is very low and the total output value of these areas only constitutes 5 percent of total fishery output value of the province. This demands that we widen our field of vision and regard the development of offshore fishery as strategically as important a task in Zhejiang's four modernizations as the construction of the mountainous areas. The decade of fluctuation in aquatic production stems from many causes, but the chief cause is our failure to attach due importance to fishery. Moreover, we overlooked the characteristics of fishery and have adopted quite a large number of measures that were against the natural law of the aquatic areas and that are against the economic law. Today, we should conscientiously sum up our experiences and strive to discover the objective law governing economic development of the aquatic areas. We should also make investigations in order to clearly know our aquatic resources and in order to form correct policies to tap to the full the great potential of the ocean. By so doing we will be able to promote the four modernizations in our province.

II. The Problem on the Policies Related to Aquatic Production

In order to put an end to the fluctuation in offshore fishery we should make new breakthroughs in all the sections of production, including fishing, aquatic breeding and the processing of aquatic products.

1) Open up fishing grounds in the outer offshore areas. This is an inexorable trend of the development of offshore fishery. It also serves to protect the inshore aquatic resources. At present there is such a large number of inshore fishing boats which make the inshore fishing grounds so crowded that it has become imperative for us to restrict their fishing capacity within a certain limit. However, the restriction should be supplemented by giving guidance in opening up new prospects. We should energetically guide the fishermen to develop fishery in the outer offshore areas and regard this as being precisely the important measure for preserving inshore aquatic resources. The problem now is whether we will be able to open up new prospects by going outward and whether there are fish to catch in the outer offshore areas. To solve this problem, we have made a special investigation in Zhoushan. The investigation proves that we have all the favorable factors for going outwards. At present, we have not only a fleet of outer offshore fishing boats with some state-owned fishing vessels as its backbone, but also a number of large motorized sailboats owned by individual fishermen. Moreover, in some counties in Zhoushan and Ningbo prefectures, the fishing communes and brigades that have sound economic bases and high technical standards in fishing are all applying for building bigger new ships with funds raised by themselves in order to meet the demand of extending their fishing operations to outer sea areas. The practice of the Zhoushan No 2 Offshore Fishery Company has proved that there are fish to catch in the outer offshore waters. The 14 old AFS new fishing vessels in that company have caught 12,310 tons of fish during the past 2 years. Seventy-two percent of their fishing operations have been carried out in the outer areas. The average annual output of each of these two fishing vessels is 1,060 tons, of which more than 70 percent have come from the middle and bottom layers of sea waters. They have also caught some fine strains of fish that have never been found in the inshore areas. Other companies have also achieved good results in outer sea fishing. For example, the Zhoushan Fishery Company has achieved relatively good results in catching black scrapers and so has the Ningbo Fishery Company in catching middle and bottom layer fish in the outer offshore areas.

Extending our fishing operations to outer sea areas is the strategic goal in developing our sea fishery. Of course in tactic arrangement we should proceed from reality and strive to make steady progress. As the Zhoushan Islands are relatively near to our outer sea fishing grounds and as the fishermen there have experience in carrying out fishing operations on the sea for a long time, it is feasible to first organize some of the fishing teams of the Zhoushan and Ningbo prefectures to develop outer offshore fishery and at the same time develop fishing vessels and motor sailboats for going further out.

While developing outer sea fishery, we should rationally utilize the offshore aquatic resources under the premise of strengthening the protection of resources. Those species of fish we have fished excessively should now be protected and those that we have failed to fully exploit should now be fully exploited. After years of readjustment the number of motorized sailboats in Wenzhou Prefecture dropped from 794 in 1978 to 712 in 1981, but the total output increased from 580,000 dan to 990,000 dan. In Taizhou Prefecture, because we paid attention to developing drift net and angling operations, we caught 60,000 dan of butterfish, sweetfish and spanish mackerel, which were a 100 percent increase over 1978 and we also caught 120,000 dan of hairtail fish, which were a 70 percent increase over 1978. This proves that in utilizing offshore aquatic resources there is still great potential to tap.

2) We should emancipate our minds and vigorously develop fish breeding in beach and shallow sea areas. Over the past few years, our province has achieved some initial results in developing inshore fish breeding. The area of breeding has continuously been expanded and the varieties become increasingly varified. Ninghai County has taken the advantage of the favorable geographical conditions of Xiangshan Port and Shanmen Gulf and vigorously developed inshore fish breeding. Up to last year, the county utilized 44 percent of the waters that can be used for breeding and the output of its fish breeding constituted 38 percent of its total fishery output. This has proved that there is a bright prospect for aquatic breeding. Of course the natural conditions differ in areas and the capability of aquatic breeding in various areas also differ. However, as long as we attach as much importance to this work as the Ninghai County CCP Committee has done and as long as we adopt corresponding policies that are suited to the local conditions, we will be able to utilize the 1.3 million mu underutilized beach and shallow sea areas and thus substantially raise our income.

Besides the beach and shallow sea areas, we also have a vast area of freshwaters in our coastal counties that can also be used for fish breeding. The total area of lakes and reservoirs is 2.27 million mu in our province. If the area of rivers is added to it, the total area is about 5.53 million mu. This also constitutes an abundant natural resource for developing fishery in our province. In the past few years we have also made some progress in developing freshwater fish breeding. However, there is still great potential to tap in increasing the area of breeding and the output per area. We must vigorously develop freshwater fish breeding in the light of local conditions.

3) We should vigorously develop the processing and comprehensive exploitation of aquatic products. The processing of aquatic products has always been a weak sector in the aquatic production of our province. Year after year we let large quantities of fish and shrimps we have caught become

rotten and inedible. This is really a pity. Now some areas have already begun to develop fish processing. The Ningbo Offshore Fishery Company has developed the processing of black scrapers. It cuts the meat of the fish off and then bakes the meat into dried strips, which sell very well in Japan. The skin and head of these fish are processed into fish powder to be used as fodder. Oil is extracted from the liver of the fish and used as an industrial raw material. In the past 2 years, Wenling Aquatic Product Company has developed the processing and packing of diversified small fish into food, which is well received in the market. Along with the increase in the cold storage capacity of the fishing areas, this work will become increasingly important and we must pay close attention to doing it well.

III. The Problems of Diversified Undertakings in Fishing Areas

In the fishing areas, there are both sea areas and mountains. Both abound with resources, which provide favorable conditions for us to develop diversified undertakings. We should regard the development of diversified undertakings in the fishing areas as a major task in implementing the production policies in the fishing areas and we should pay attention to fulfilling this task well in the same manner as we do to fishery.

There are quite a few advantages in developing diversified undertakings in fishing areas. First, it can provide many job opportunities for redundant laborers. Second, it facilitates the construction of the land base for fishery and will thus facilitate the development of fishery at seas. Third, the output of offshore fishery is not steady and it often fluctuates up and down. When it fluctuates down, the development of diversified undertakings can make up the decrease of income from fishery. This will enable our fishermen to have steadily increasing income and will therefore be an important way for the fishing areas to become rich. Fourth, it will enable the fishing areas to rely on their own strength to provide some materials and goods that are necessary for developing fishery. For example, 20,000 tung oil trees have been planted in Xiangshan County in the past few years and they will bear fruit in the coming 1 or 2 years. Pines have been planted on many islands in Zhoushan Prefecture and many of them have already grown into forests. The Dongwan brigade in Dinghai County has cultivated many mao bamboo trees, which grow very well. Now these bamboos can supply the needs of other brigades as well as all of the Dongwan brigade's own needs.

There are a large number of ways for developing diversified undertakings in fishing areas. We can either develop cutlivation of orange trees, grape vines, tea plants and bamboo trees or engage in breeding long-hair rabbits, otters and minks. We can also develop saltworks, food industry, transportation service, building materials industry and shell carving and other handicrafts. The Xiashan commune in Ninghai County is situated on 11 small islands. During the recent years, besides developing fishing and fish breeding, the commune has reclaimed 960 mu--nearly 1 mu per household--from beach and planted orange trees on it. These trees bore 240,000 jin of oranges last year. The commune has also utilized the local resources to set up a factory to process orange and aquatic products. Last year, the commune obtained 1.75 million yuan of income from this factory. It has also set up other commune enterprises such as stone pit and boat factory.

in 1981, of the total income of the commune 28 percent came from fishing, 29 percent from sea aquatic breeding and 43 percent from diversified undertakings. The average income per laborer was 776 yuan and that per capita was 378 yuan. Now, all the people above the age of 16 are employed in the production of the collective.

IV. The Problem of the Production Responsibility System

Judging by the forms of the production responsibility system that is being implemented in a few counties, there are the following three major forms of the production responsibility system geared to offshore fishery: The first is fixing quotas for output, cost and workpoints and granting rewards for overfulfillment of output quotas and for lowering costs. The second is proportionate division of profits. When this form is implemented, the means of production belong to the brigades but the production is organized by the operation units and the income is divided proportionately between the brigade and the units. The third is assigning full responsibility for fulfilling quotas to units, which are to organize the production and shoulder the responsibility for profits and losses under the unified accounting of the brigade and which should hand over a certain proportion of their profits to the brigade. All the localities and units that have implemented the production responsibility system are carrying out their production satisfactorily. The problem now is to vigorously pay attention to perfecting these forms of the production responsibility system in order to stabilize them.

As for the first form of the responsibility system, the major task for improvement at present is to rationally fix output quotas and the proportion of rewards and penalties and to strengthen cost management. In this respect, the Nanfeng brigade in Daishan County has done its work in a relatively satisfactory manner. The costs of production in this brigade are not charged to the brigade, but to the operation units that have been assigned cost quotas. The proportion of rewards or penalties in relation to profits and losses is 30 percent. Care of all production tools in boats have been assigned to specific persons. Thus it has achieved relatively good results in conserving on materials and goods and in lowering costs. Rewards for output in excess of the output quota have been raised from being 15 percent to being 20 percent of its value. In order to encourage the operation units to catch more second-class industrial fish, it has decided to pay a premium of 1 yuan for every dan of industrial fish that have been caught.

As for the last form of the responsibility system, the major problem we have to solve is to correctly handle the relationship between the unified management and separate assignment of responsibility. The Guoqing fishery brigade in Ningguo County has carried out its unified management by adhering to the principle that the means of production are owned by the brigade and all the manpower should be put under the unified arrangement of the brigade and to the principle that all the financial receipts and expenditures should be recorded in the consolidated account of the brigade and that all the units should follow the guidance of the state plan. At the same time, the brigade has also paid attention to raising the quotas of brigade accumulation funds, public welfare funds, depreciation provision funds and administration charge. In 1981, the brigade collected 86,000 yuan of the above-mentioned funds and charges, which was a 45 percent increase over the year before. The income per capita was 405 yuan, which was 34 percent more than that in 1980. The brigade sold 4,458 dan of aquatic products to the state, which was 21 percent more than in 1980. It has also replaced some old boats with new ones and thus increased its production capacity. These experiences should be vigorously popularized in all the other areas in the light of their local conditions.

V. The Problem that Concerns Scientific Research and Education

The results of the investigation in all the localities have shown that in the past few years our province has achieved some good results in its scientific research related to offshore aquatic production. For example, we have satisfactorily carried out an investigation of the offshore aquatic resources and made some trial improvement of motorized sailboats. Moreover, we have achieved certain results in breeding kelp, laver and prawns and in developing the comprehensive exploitation of black scrapers. All these have promoted the development of offshore fishery. However, taking the situation as a whole, our scientific research has lagged behind the production and has fallen short of the demands of the development of production.

At present, there are 15 offshore aquatic production research institutes and one aquatic production college in our province. We should further implement the policy of scientific research serving production. We should coordinate in carrying out of the general strategy of gradually extending our offshore fishery to outer offshore fishing grounds and soundly carry out research on the major tasks such as investigating outer offshore aquatic resources, outer offshore fishing, aquatic breeding, processing of aquatic products and scientific management. We should strive to achieve good results in the research and use these results in production as soon as possible. Regarding a few key research tasks, we should organize cooperation between different research institutes in order to make a breakthrough by their joint efforts. At the same time, we should correct the erroneous ideas in some of our research workers who attach importance only to scientific research and neglect the popularization of the results of their scientific research. We should conscientiously popularize and make good use of the results of our scientific research. For example, we succeeded in making some trial equipment for using the inertia of engines of motorized sailboats to heighten pressure and using the heat of the waste gas to conserve on energy. We have also succeeded in using the heat of the waste gas of diesel engines of motorized sailboats for cooking and for drying small aquatic products in motorized sailboats. All these results should be vigorously popularized.

It is reported by Wenzhou and Taishan prefectures that at present more than 50 percent of our fishermen, most of whom have been employed as fishermen in the past few years, are fishermen who rely only on the information provided to them by radio broadcasts in carrying out their fishing. These fishermen lack practical experience and often fish blindly. All the localities should pay close attention to training fishermen to master the skills of finding fish and operating fishing nets and to training fishery technicians. At the same time, they should make efforts to popularize cultural education and scientific and technical knowledge in fishing areas in order to train a new generation of fishermen to meet the demand of the socialist modernization of fishery.

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BRIEFS

COUNTY GRAIN PROCUREMENT--As of 25 May, Yuyao County, Zhejiang Province, had procured 11.52 million jin of grain and 100,000 jin of rapeseeds. [Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 5 Jun 82]

HUANGYAN COUNTY GRAIN--Huangyan County has reaped a good spring grain harvest from 190,000 mu of land. Total output has reached more than 90 million jin, an increase of 5 percent over last year. [Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 29 May 82]

COUNTY CROPS--Ruian County has planted 105,000 mu of sweet potato, spring soybean, peanut and other food grain crops. The county planted 295,000 mu of early rice in the spring, 2,300 mu over the planned target. [OW241307 Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 23 May 82]

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I. GENERAL INFORMATION

'RENMIN RIBAO' DISCUSSES PLANNED ECONOMY IN AGRICULTURE

HK300346 Beijing RENMIN RIBAO in Chinese 27 May 82 p 5

[Article by Wu Zhenkun [0702 2182 0981]: "Several Questions Regarding Persistently Taking Planned Economy as the Leading Factor in Agriculture"]

[Text] The party has relaxed the rural economic policies and instituted various types of production responsibility systems in recent years. The results of this have been very good. Agricultural production has developed and the rural economy has been enlivened. However, a kind of misunderstanding has developed among certain comrades who think that state planning is apparently no longer needed after the institution of various types of agricultural production responsibility system, and that control by planning can apparently be relaxed since stress is laid on respecting the production teams' decisionmaking rights. The tendency to pay no heed to state plans has also emerged in certain places with regard to arrangements for cultivation plans and the monopoly and apportioned procurement of agricultural and sideline products.

In their crop cultivation, some places have inappropriately reduced the grain area and increased the area sown to industrial crops such as cotton, tobacco and oil-bearing crops. Of course, it is quite proper to switch to cultivating industrial crops on land unsuited to grain cultivation. The 1982 state plan aimed at controlling the tobacco cultivation area at 8 million mu this year (last year it was 8 million mu), but reports from all parts of the country indicate that the area may have reached 10 million mu. Production of rapeseed developed too rapidly last year, and the sown area this year tends to be still greater. The sown area of cotton has also been increased too much in some places. The loss of control over the cultivated areas of industrial crops will have two consequences: 1) There will be a continued decline in the grain area; the area sown to grain in the whole country last winter was 9 million mu less than in the previous year, and this will have an unfavorable effect on the effort to increase grain output; 2) excessively rapid development of industrial goods will bring about a situation whereby they cannot be harvested, processed, stored or transported, thus causing losses to the state and the peasants.

With regard to the procurement of agricultural products, the amounts procured have fallen continually in the past 2 years while more and more have been inappropriately bought at increased and negotiated prices after overfulfilling procurement quotas. This has affected market supplies and price stability and has also increased the state's expenditures. Although the base figure for national grain procurement has fallen, the figure has not been fulfilled in the past 2 years. Of course, a reduction in the amount of grain procured according to the base figure certainly does not mean that the state has procured less grain than in the past; what it does mean is that each year more grain is being procured at increased or negotiated prices. Last year only about 40 percent of grain was procured at par; the other 60 percent or so was bought at increased or negotiated prices. This meant a big increase in state expenditures on grain price subsidies.

Recently the peasants in some places have been unwilling to raise pigs. On the one hand this is because there are reduced or no supplies of feed grain, and on the other because there is less money to be made from raising pigs than from selling grain at increased prices, so they do not want to raise pigs even if the feed grain is there. At present there is a marked decline in pig procurement in certain provinces, and quite a number of towns have had no alternative but to restore the method of supplying pork in limited amounts. The peasants in the outskirts of certain towns are unwilling to cultivate vegetables according to the state plan because they all want to engage in money-spinning industrial production or other business. As a result vegetable supplies for the towns cannot be assured.

There are many reasons for the emergence of all these problems but a very important one is that the controlling role of the state agricultural plans has been lost. Ours is socialist agriculture, and it must persistently take planned economy as the leading factor and regard the whole country as a chessboard.

In light of the present situation, we should do well in solving in ideological understanding and policy measures the following problems, in order to uphold the principles of regarding planned economy as the leading factor and regulation by marketing mechanism as secondary in agriculture.

First, the agricultural economy is the main component part of our country's socialist economy and must be subordinate to guidance by the state plans.

China's socialist economy is planned economy based on public ownership; it is an economy that the state can consciously control in accordance with prearranged plans. Although there are differences in the degree of public ownership between agriculture and industry, while there is also some discrepancy in the nature of planning between them, they are both under public ownership and so for both of them there is the objective inevitability of developing in an planned and proportioned way. Industry and agriculture are interdependent.

If there are plans for industry but not for agriculture, the national economy cannot develop in a proportioned way. Moreover, agriculture is the foundation of the national economy, and whether agriculture can develop in a planned and proportioned way has a particularly important bearing on whether the development of the entire national economy in a planned and proportioned way can be guaranteed. Our entire socialist economic life can only be coordinated if agriculture develops in a planned and proportioned way and the grain, industrial crops and other agricultural and sideline products it provides can meet the various needs of social production and the people's life.

Some people say: "Since stress is laid on persistently taking planned economy as the leading factor, is it still necessary to respect the production teams' decisionmaking powers?" In fact, persistently taking planned economy as the leading factor is fundamentally identical with respecting the production teams' decisionmaking powers. The two can be completely harmonized. In addition to control and use of all their land, mountain forests, water conservation facilities, draft animals, agricultural equipment and tools and so on, and unified control and allocation of their manpower, the production teams' decisionmaking powers mean that they have the powers to carry out field cultivation in light of their local conditions, to decide on measures for increasing production, to formulate management methods, and to distribute their own income, and so on. However, the premise of decisionmaking powers is to accept guidance by the state plans. In practicing guidance by planning for agriculture, the state takes into account its own and the overall interests and also the interests of the collective and the peasants, thus integrating the three very well. Agriculture can only develop along the correct orientation by subordinating itself to guidance by the state plans, and also by making correct use of its decisionmaking powers and acting according to objective laws. If people divorce themselves from guidance by the state plans, lay onesided emphasis on decisionmaking powers, and carry out any activity that brings in money, this is bound to wreck the state's unified plans, cause imbalances in social production and chaos in social economic life. This will damage the fundamental interests of the state and also the collective and individual interests of the peasants.

There are also people who worry, "will laying stress on taking planned economy as the leading factor stifle the economy to death and lead us back to the old road?" It should be realized that the current stress on taking planned economy as the leading factor certainly does not mean that we want to go back to the old road. However, it is essential to bring the peasants' enthusiasm onto the track of the state plans, so that they will contribute to modernization under the guidance of the state plans. Moreover, our stress on taking planned economy as the leading factor certainly does not mean that we do not want regulation by market mechanism; what it does mean is that regulation by market mechanism should be correctly applied under the premise of taking planned economy as the leading factor. This is what is commonly referred to as "big plans, small freedoms." Only thus can the enlivenment of the economy be helped.

Secondly, correctly handle the relationship between developing grain production and developing industrial crops, and implement in an all-round way the guiding principle "actively promote diversification without the slightest relaxation of grain production."

For a long time in the past we simply promoted grain production and attached no importance to diversification. For this we suffered a lot. In the light of this historical lesson, in accordance with our national condition, and proceeding from developing agriculture in an all-round way and benefitting economic returns and ecological balance, the central authorities have put forward the guiding principle "Actively promote diversification without the slightest relaxation of grain production." In order to implement this principle in an all-round way, it is necessary to correctly understand and handle the relationship between developing grain production and developing industrial crops.

The central authorities have decided to import some grain every year in the future. This decision has been made in order to readjust the internal structure of China's agriculture and arrange it in a rational way, and in particular to ensure that those regions best suited to developing industrial crops can reduce their grain cultivation task to some extent and vigorously develop their industrial crops. In this way the economic returns will be better and the state, the collective and the individual will benefit more. Moreover, the amount of grain we can import each year is very limited. The 1 billion people can only solve their food problem by relying on their own efforts. Hence, we should develop industrial crops in a planned way under the premise of ensuring a steady rise in grain production. In this way there will be a general plan and rational arrangements for our agricultural production. We should first ensure that our annual grain output reaches a certain level, and secondly we must fulfill the state monopoly procurement quota stipulated by the plan. To ensure that these two planned tasks can be fulfilled, an extremely important material condition is necessary, and that is that the national grain cultivation area is stabilized at a certain figure. If the grain area is reduced, this is bound to affect the fulfillment of the plans for total output and procurement quota.

Taking the country as a whole, the proportion between the cultivation areas of grain and industrial crops is now basically rational as a result of several years of readjustment, and it is necessary to stabilize the grain area and avoid reducing it any more. The focus on the future development of industrial crops should be not on taking over grain land and squeezing grain aside but on improving yields and quality. For instance, the cultivation areas of tobacco and rapeseed should be strictly controlled according to the state plans, and efforts should be made to improve their yields and quality. In increasing the cultivation area of industrial crops and promoting diversification, we should focus our attention on making full use of sandy wasteland, alkaline land, abandoned farmland, and old pits and pools, and on making full use of extensive mountain, hilly and plain regions and the waters. We should guide the peasant masses to advance toward the depth and breadth of production. In this way both grain production and diversification will grow steadily.

Thirdly, it is necessary to take effective measures under the guidance of the state plans to promote production of vegetables and pigs.

Comrade Chen Yun clearly pointed out in 1957: "The significance of the problem of supplying vegetables and other nonstaple foodstuffs is certainly not less than that of building factories; the issue should be assigned a status of equal importance." This should become the guiding ideology for solving the vegetable problem for urban residents. To ensure that sufficient vegetables are planted according to the plan, and planted well, we must resolutely map out the vegetable cultivation areas according to the needs of the urban population and ensure that no more of the existing vegetable land is taken for other purposes. New vegetable land should be opened up in a planned way in places where too much of the old vegetable land has been occupied for other purposes. The outskirts of towns should practice the guiding principle of concentrating on vegetable cultivation and institute planned cultivation and procurement. The state-owned vegetable companies and the vegetable-growing production teams must sign contracts according to the state plans, stipulate reward and penalty clauses and also criteria for grain and fertilizer supplies, and mutually carry out their economic responsibilities. Vegetables are grown throughout the year and sent to market daily. The most suitable production responsibility systems should be selected in light of this characteristic.

Pig-raising tasks and procurement quotas should be formulated in light of state and local needs and assigned and mapped out for the production teams and households. The rural communes and brigades and the peasant households should actively develop pig-raising in accordance with the plans handed down to them, treating this in the same way as they do grain production. It is necessary to resolutely implement the reward and penalty policies on pig-raising stipulated by the state, and ensure that the peasants can gain proper benefit from pig-raising.

Fourthly, it is necessary to ensure the fulfillment of the monopoly and apportioned quotas for agricultural products and also the plans for allocation and transfer.

For a certain period in socialist construction, when supplies of many important agricultural products cannot meet demand, the state must continue to practice the monopoly and apportioned procurement methods in order to ensure the fulfillment of the procurement quotas for certain major agricultural products. The state monopoly procurement method is the policy of unified procurement practiced by the state for the agricultural products of grain, cotton and oil which have a very important bearing on the national economy and the people's livelihood. Agricultural producers must sell to the designated commercial organs the products stipulated for monopoly state procurement in accordance with the stipulated varieties, quantity and price, and the state handles these products in a unified way. Apportioned procurement is a policy by which the government apportions to the peasants a certain part of the task of selling some agricultural and sideline products that have a relatively important bearing on the national economy and the people's livelihood. With regard to the agricultural and sideline products for which apportioned procurement is practiced, the state only apportions a certain amount of the sales quota to the rural communes and brigades and the individual peasants, and the designated commercial departments procure them at the planned price. The targets for monopoly and apportioned procurement are the most basic targets in the state's agricultural production plans and have binding force. The main point in upholding planned economy as the leading factor in agriculture is to strictly carry out the monopoly and apportioned procurement policies and ensure the fulfillment of these procurement tasks.

The task of allocation and transfer of agricultural and sideline products, as planned by the state, must be fulfilled according to plan, in order to meet the needs of the state, ensure that large advanced factories using agricultural and sideline products as raw materials receive sufficient supplies, and gain still greater economic returns. Areas producing raw materials can only process or arrange other uses for these materials after the state delivery quotas have been fulfilled. Ensuring the fulfillment of the delivery quotas is also an important measure for persistently taking planned economy as the leading factor.

We should make a correct summation of the role played in enlivening the economy by taking planned economy as the leading factor and regulation by market mechanism as secondary. This summation should be made in light of historical experiences and especially the practice of recent years. We should realize that regulation by market mechanism has indeed played a beneficial role in enlivening the economy. Hence, in the future we should attach importance to this role of regulation by market mechanism. However, historical and current experiences all show that the key to enlivening the economy lies in having a comprehensively balanced economy plan that accords with reality. If planning control is lost, imbalances and market chaos will result, and regulation by market mechanism will be unable to play its role in promoting all-round balance; and if things are not handled well, this kind of imbalance might be intensified. If too much stress is laid on the role of regulation by market mechanism, our economy is bound to get off the track of planning and to be thrown into chaos. Hence, it is essential to uphold the guiding principle of taking planned economy as the leading factor and regulation by market mechanism as secondary in order to enliven the agricultural economy and the entire national economy.

CSO: 4007/429

INCREASE IN DISPOSABLE INCOME, CHANGE IN CONSUMPTION REPORTED

Beijing RENMIN RIBAO in Chinese 30 Mar 82 p 1

[Article from Xinhuashe, Beijing, 29 Mar: "City and Countryside People's Purchasing Power Has Increased 43 Percent During Past 3 Years. Party and Government Take a Series of Actions to Improve People's Livelihood"]

[Text] According to a report from JINGJI CANKAO [ECONOMIC REFERENCE], statistical data provided by the State Statistical Bureau shows that since the Third Plenary Session of the 11th Party Central Committee, as a result of a series of actions taken by the party and government to improve the people's livelihood, city and country residents' money income has tremendously increased, purchasing power has risen remarkably, and changes have taken place in the structure of consumption.

In 1981 total monetary value of consumer goods bought by city and country people increased 60.4 percent as compared with 1978. After adjusting for retail price increases, the rate of increase was 43 percent. The situation nationally of average monetary increase in consumer goods purchased during the 3 year period was as follows: 117.20 yuan in 1978, 135.20 yuan in 1979, 163.70 yuan in 1980, and 180.80 yuan in 1981. The increase in 1981 as compared with 1978 was 54.3 percent.

Rural purchasing power increased more rapidly than in cities and towns; however, in absolute money terms, cities and towns were still three times higher than rural villages. In 1981 rural residents' purchase of consumer goods (figured in money terms, and likewise in succeeding cases) increased 90.2 percent over 1978. For city and town residents, purchases of consumer goods increased 36.4 percent over 1978. In terms of population average, in 1981 rural resident purchases of consumer goods averaged 117.40 yuan per capita, a rise of 53.90 yuan compared with 1978, for an 84.9 percent increase. City and town resident purchases of consumer goods averaged 457.90 yuan per capita, a 93.40 yuan increase over 1978 for a 25.6 percent increase.

Among the consumer goods purchased by city and country residents, the increase was greater in clothing and items for daily use than for food and fuel.

Purchasing power increased more rapidly than growth of sources of supply, and cash surplus purchasing power became increasingly great. In 1981, sources of supply of consumer goods grew 53.6 percent over 1978 for the year, while consumer goods purchasing power increased 65.8 percent for the year, exceeding the speed of increase of sources of supply of consumer goods.

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NOTICE ON COLLECTIVE INCOME DISTRIBUTION REPORTS

Beijing GONGSHE CAIWU in Chinese No 1, 6 Jan 82 p 5

[Article: "Ministry of Agriculture Notice"]

[Text] The notice issued by the Ministry of Agriculture on 20 November on reporting those production brigades and counties in which the average per capita collective distribution for rural people's communes in 1981 was above 300 yuan, and those counties in which it was below 50 yuan, as well as data from basic accounting units, required all jurisdictions henceforth to prepare statistics once annually, seeking the truth in facts, on production teams and counties with average per capita collective distributions of more than 300 yuan and on counties with less than 50 yuan, as well as on basic accounting units.

The following points constituted the principal content of the notice:

1. Beginning in 1981, production brigades and counties having an average per capita income of 300 yuan or more, counties in which it was 50 yuan or below and data about basic accounting units should form a major, integral part of the annual compilation work for the statistical reports on national rural people's communes earnings distributions, and [these data] should be statistically collated on an individual basis.

2. The per capita average of collectively distributed income, including bonuses, and commune and brigade enterprise wages not included in gross earnings of basic accounting units [should be reported].

3. Figures using production brigades as statistical units, including both those for production teams and production brigades, and figures using counties as statistical units, including production teams, production brigades and communes, [should be included].

4. Production brigades that have average per capita collective income of more than 300 yuan should, according to the circumstances of income distribution, be shown on an A-type chart, with (1) subcategory 1, subcategory 2, subcategory 3 and (2) subcategory 1, subcategory 2 items filled in, and the following items should be added:

(1) Total workforce (individuals), including the agricultural workforce, the brigade-operated industry workforce and the brigade-operated business workforce;

(2) Brigade-operated industry earnings and business earnings;

(3) Total cultivated land (mu), including amount for grain and amount for economic crops.

Data on afforestation should be compiled level by level. Every province, municipality and region should report by name those production brigades having average per capita earnings of more than 300 yuan, list the counties and communes in which they are located and the average per capita level of earnings distribution, and select experience summaries and tables showing the income distribution for some three to five brigades.

5. Statistical tabulations for counties with average collective earnings distributions of more than 500 yuan or less than 50 yuan per capita as well as for brigades with more than 300 yuan per capita, should be filled out by each county and reported to the provinces, municipalities and regions; no compilations are necessary.

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METHODS FOR CALCULATING PEASANT HOUSEHOLD INCOME LISTED

Beijing GONGSHE CAIWU in Chinese No 1, 6 Jan 82 pp 13-14

[Article by Chen Huamei [7115 5478 5019], Yi Minghua [2496 2494 5478], Wu Baixing [0702 4102 5887], and Zhang Shichun [1728 0013 0193]: "How To Distribute Earnings in Production Teams in Which Peasant Households Assume Full Responsibility for Completion of Tasks"]

[Text] Forms of distribution depend on the form of the responsibility system. In production teams in which peasant households assume full responsibility for the completion of tasks, party distribution policies are carried out through contracts, and what is turned over to the state and kept by commune members is done through the contracting of full responsibility that reflects the "relationship among the three" [state, collective, and individual]. This is a change in the method of distribution which has been brought about by changes in the form of the economy. However, making an accounting of task completion when peasant households assume full responsibility can account for only that portion tendered the state in the system of sole responsibility for completion of tasks. One must also use statistical accounting to figure the portion retained by commune members, in order to reflect the results and the income distribution situation from production operations as a whole.

1. Checking and ascertaining receipts and disbursements. Brigades that practice a system whereby peasant households assume full responsibility for completion of tasks will still have to institute fiscal checking of money, grain, material receipts, expenditures and all economic transactions that are included in their ledger accounts, and they will have to determine the receipts and expenditures for portions retained by commune members. The scope of checking and of determining will for the most part include fields, industrial sideline occupations and economically diversified farming on fixed output quota land for which outputs will have to be ascertained and converted into output value. It will be necessary to check receipts and examine expenses, and both to check the collectively distributed portions and to figure amounts and output value of what is tendered to higher authorities and what is personally gained through the system of assumption of sole responsibility, in order to fundamentally reflect the overall picture of the collective economy. As for methodology, invoices are to form the data base for accounting for the portions included in the ledgers, for conscientious financial checking, verifying receipts and disbursements and ascertaining

disbursements. Representative sampling can be done in the case of portions in the system of peasant households that assume full responsibility for the completion of tasks; alternatively, a complete accounting may be done or a combination of the two may be used. Use of the former method entails selecting representative accounts for a check to see whether receipts are all right, usual or short, and whether expenses are high, normal or low, and [entails] checking to see whether the figures are substantially genuine and have statistical value. Use of the latter method entails starting with a summary of the production responsibility system, using reports from individual households and popular evaluations [minping 3046 6097], and household-by-household registration in a comprehensive accounting of the area of all crops and output, and of all receipts and expenditures. No matter which method is used, it is necessary to substantially reflect realities.

2. Honoring of contracts. In production teams which practice the system in which peasant households assume full responsibility for the completion of tasks, the carrying out of contracts means the carrying out of distributions, and the honoring of contracts means the honoring of distributions. At year's end, when contracts are honored, the settlement of accounts and the honoring of contracts must adhere to the principle of making readjustments for severe disasters but doing nothing about less severe disasters.

3. Preparation of earnings distribution forms. On the basis of extrapolation from accounts data in ledger and representative sampling, or on the basis of comprehensive accounting, all outputs and output values should be used to fill in forms on crop output (or output value), and these crop output (or output value) forms should be used to draw up grain distribution plans and total earnings distribution plans. On the basis of these two plans and commune member chits, commune member income distribution settlement sheets should be prepared.

4. Doing a good job of distribution account transfers. Following implementation of the system in which peasant households assume full responsibility for the completion of tasks, the monies and grain that commune members customarily turn over to production teams have been entered into transaction accounts and are no longer treated as income from farming, and no further distribution of them is made. Therefore, in the part that is turned over by commune members who have assumed sole responsibility, only a settlement of transaction accounts is made at the end of the year, with no need for transfer of distribution accounts. For the uniformly administered, collectively distributed portion, however, a relationship between earnings and distributions still exists, and after final accounts have been settled and distributions concluded, it is necessary to distribute transfer accounts on the basis of the collectively distributed portion of distribution plans. Transfers of accounts still must be included in the "earnings distribution" column. Following settlement and transfer of distributions, no balances should remain for debits in the "earnings distributions" column recording transfers of funds from columns having to do with income; for credits recording transfers of funds from columns having to do with expenditures; or for net income to the state, the collective and individuals in the earnings distribution plan.

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ADMINISTRATIVE ACTIONS TO INCREASE ECONOMIC EFFECTIVENESS DISCUSSED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 1, 5 Jan 82 pp 4-5

[Article by Commentator: "Agriculture Should Take the Road of Improving Economic Benefits"]

[Text] Flushed with victory, we have strode into 1982. Not long ago, the Fourth Session of the Fifth National People's Congress passed Premier Zhao Ziyang's government work report. This is a programmatic document for our future guidance in doing a good job of economic work. This issue of the magazine has excerpted from this report the portions dealing with agriculture in the 10 articles on economic construction programs. We must diligently study and strive to implement them.

Agriculture is the foundation of the national economy. All-around development of the rural economy is the key in assuring all-around growth of the national economy. In accordance with requirements of the period of national economic readjustment, development of agricultural production or carrying out of rural construction in any given year in the future cannot rely on overly great increases in state investment in agriculture; rather most reliance will have to be placed on policies and science, hopes being placed on efforts to increase economic benefits. As Premier Zhao Ziyang proposed: "Use of every possible means to increase economic benefits in the individual fields of production, construction and circulation is a key problem"; "Our agriculture must take the road of fairly little investment for fairly high economic benefits."

Since the founding of the People's Republic, China's agricultural productivity has developed very greatly. In a country of 1 billion population, we have solved the problem of getting enough to eat and have supported the nation's socialist construction. This is beyond doubt a great feat. It must be realized at the same time, however, that the economic benefits of our agricultural production are still not high. Investment of labor is very much not matched by rise in labor productivity rates. During the past 30 years, the workforce engaged in agriculture has increased by 130 million to its present 300 million size, while the labor productivity rate has increased by only about 1 percent. The main reasons are the singular nature of production, over-centralization of management, no calculation of costs in operations and egalitarianism in distribution, which contravene natural laws and economic laws and create extremely great waste of manpower, financial and material resources and very poor economic benefits. Since the Third Plenary Session [of the 11th Party Central Committee], the aforementioned circumstances have begun to change, but very great efforts will still be required to effect fundamental turnaround.

Improvement of agriculture's economic benefits is a major topic with many problems requiring solution. Looked at in terms of current realities, the several problems below require serious attention.

First is further improvement of production responsibility systems, combining the bringing into play of the strengths of a collective economy with arousal of commune member enthusiasm, the collective economy thereby deriving inherent dynamism. In recent years, the broad masses of peasants and rural cadres have broken the fetters of "leftist" ideology to build diverse production responsibility systems, agricultural productivity thereby achieving yet another liberation. This is a marvelous reform and the fruits of this reform must be consolidated and developed. The Central Committee has clearly announced its adherence to the socialist collectivization, and long-term unchanged ownership system of ownership of the basic means of production such as land, and adherence to long-term unchanged production responsibility systems in carrying out collective agricultural economy. Acting in the spirit of the aforestated "two long-term unchange," we should strive to improve and perfect the various types of agricultural production responsibility systems. In order to do this, except for a minority of communes and brigades that have yet to establish responsibility systems or that have established responsibility systems but the masses are very dissatisfied, requiring continued building and readjustment, from an overall standpoint, no matter the form of responsibility system selected, all should be consolidated and gradually perfected on the basis of stabilizing the system. One problem that should now receive special attention is how to consolidate intermediate areas and intermediate communes and brigades. After 30 years of construction, these areas have varying degrees of public property and public facilities. In view of the malady of egalitarianism within their collective economies, the peasants urgently demand the practice of contracting. A fairly good method would be a system of collective management and control as well as contracting out for specialized jobs. The ingredients in a system of collective management and control and the form and extent must be arrived at through an adaptation of general methods to local situations and local industries; when local condition calls for collective management, then collective management should be applied, and when local condition requires assigning tasks to individuals or groups for completion, then contracts should be made. Additionally, another new situation merits attention, namely, now that the problems of food and clothing have been solved, peasants universally demand development of economic diversification to increase their earnings. Therefore, when production responsibility systems are improved and perfected anywhere, improvements should not be limited simply to farmland production. Attention has to be given to inculcation of a large-scale agriculture mentality, with consideration given to how to promote development of economic diversification, and to channel mass enthusiasm for production for in-depth and in-breadth advances in production, and the perfection of production responsibility systems, thereby meeting the needs of all-around development of farming, forestry, animal husbandry sideline occupations and fisheries.

Second is further readjustment and restructuring of the production structure for multiple kinds of operations, all-around development and increase in commodity production. In 1980 output value of farming was 73.9 percent of gross national output value of agriculture, the output value of forestry, animal husbandry, sideline occupations, fisheries and commune and brigade enterprises amounting to only 26.1 percent. Such extremely single-natured production must be changed. Agricultural production is a multiple production process requiring the coordination and cooperation of all its aspects in order to be uniformly mutually supporting and promote improvements in economic benefits. Therefore, it is necessary to continue to devote attention to readjustment and to the building of an equitable production structure. On the basis of agricultural resources surveys, agricultural zoning should be done, and general methods adapted to general situations to plan both grain production and an equitable mosaic of economic crops, forestry, animal husbandry and fisheries. Vigorous development of economic diversification should be done in the spirit of the Central Committee's 1981 document 13 to take the road of multiple increases in value from "procurement to processing to sales," through comprehensive agricultural, industrial and commercial operations. In addition, sensible arrangements should be arranged with all departments having a part in preliminaries to production and follow-ups to production that are closely interrelated with agricultural production, such as the production and supply of means of production, technical services, transportation, storage and processing of goods, finance and credit in order to promote increase in the economic effectiveness of agriculture.

Third is firm attention to scientific research and promotion of technology. Science and technology are production forces. Through the study and promotion of science and technology, we are able to make fullest rational use of resources and use the results of science and technology to directly convert potential productivity into actual productivity to gain greater economic benefits. The bumper cotton harvests in Shandong Province during the past 2 years, for example, are directly related to their general use of fine variety cotton, Lumian No 1. In 1980, Xin County in that province used nothing but Lumian No 1 for yields of 120 jin per unit of area, a 56.3 jin increase over the previous year in an ample demonstration of the power of promotion of technology. Now, following promotion of responsibility systems, peasant enthusiasm for the study and use of science is at an unprecedented height, providing extremely advantageous conditions for the extension of technology. All jurisdictions should fully realize this new situation and place scientific research and technological promotion in a truly important position, strengthen leadership, seek to breed and promote fine varieties, improve farming systems, change the composition of chemical fertilizer, practice sensible fertilization, produce highly effective pesticides of low residual toxicity and selectively promote applicable agricultural mechanization, striving to achieve more outstanding results, thereby effectively combining the fruits of modern scientific and technological research with China's fine tradition of intensive farming.

Fourth is full use of the effectiveness of existing production facilities. As a result of more than 30 years of construction, we possess a large amount of agricultural project facilities with a rather impressive potential. By simply strengthening management, using them sensibly and conscientiously tapping their potential, without spending much more money, considerable economic benefits may be gained. For some time during the past we increased attention to changing nature, but frequently insufficiently serious attention was given how to adapt to nature and how to make full use of existing project facilities. This situation will have to be changed in the future. Right now special attention should be directed to shifting the focus of water conservancy from the construction of the past to management, so that existing project facilities and water resources will provide greater benefits. In addition, as a result of production responsibility system arousal of peasant enthusiasm and an increase in the labor efficiency rate, a surplus of labor exists. In addition to development of economic diversification, attention must be given to investment of labor with organization of the masses to strive for efficient field water conservancy, planting of trees for afforestation, the building of roads and bridges and such small-scale capital construction in order to improve agricultural production conditions and promote all-around development of the agricultural economy.

Fifth is attention to reorganization of commune and brigade fiscal management and promotion of economic accounting. For a long period of time, as a result of inattention to fiscal management and economic accounting, laxness has been created in the system, records are not clear, production expenses are excessive; loss and waste of collective financial and material resources is serious, most funds are used up and economic benefits are very poor. In 1980, the State Council approved and sent forward, "Report on the Status of Financial Reorganization Pilot Project Work in Shahe Commune, Changping County, Beijing Municipality." On the basis of instructions from the State Council, many places conducted pilot projects for the reorganization of financial management, and a small number of places have elaborated such projects in turn, obtaining distinct results. However, nationally speaking, progress has been slow, and vigorous attention is required. The goal of commune and brigade fiscal reorganization is to inventory holdings, overcome chaos, strengthen systems, plug loopholes, increase income and conserve on expenditures to improve economic benefits. Consequently in the process of reorganizing fiscal management, all jurisdictions should help commune and brigade cadres set up economic accounting points of view for the gradual establishment of expense quota and cost accounting systems to study investment and output, to be concerned about ways to generate wealth, to accumulate wealth and to use wealth.

In order to increase economic benefits from agriculture, sole reliance on economic measures and technical measures will not work either. Ideological and political work must be intensified to increase the socialist, patriotic, and collectivist consciousness of the broad masses of cadres and people to assure a socialist orientation for economic activities and, through pooling the wisdon and efforts of everyone, to take a road of relatively small investment for relatively high economic results.

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XINJIANG EXPERIENCES WITH PLASTIC MULCH IN COTTON-GROWING RECOUNTED

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 2, 1982 pp 22-24

[Article by Gao Hua [7559 0553] and Li Zhirong [2621 1807 2837]: "New Technique For High Cotton Yields--Growing Cotton Using Plastic Mulch"]

[Excerpts] In 1979 China began to extend plastic mulch technique, with experimental growing of crops using plastic mulch beginning on a state farm in Xinjiang Province. The area was only slightly more than 2 mu that year, and the major crops were vegetables. Results were similar to those in Japan at the outset, namely a general increase in yields ranging from 30 to 50 percent. In 1980, plastic mulch was used for the growing of crops on somewhat more than 50 mu, its use expanding from vegetables to melons, peanuts, potatoes, grapes, fruit tree seedlings, poplar trees, and cotton. Results of the experiments showed that under Xinjiang Province's natural conditions, use of plastic mulch culturing brought about varying degrees of increased yields and increased earnings for all crops. At the outset, vegetable yields increased by from 40 to 90 percent; they reached market 17 days earlier than usual, and their output value increased by from 20 to 60 percent. For melons, yields increased by more than 60 percent; and for peanuts yields doubled.

In 1981, the Xinjiang Reclamation Area actively extended plastic mulch techniques to the growing of cotton, extending it to a 20,000 mu area for greatly increased yields per unit of area. Estimated yields were about 160 jin per mu, a doubling of the 80 jin average cotton yields per mu for the reclamation area as a whole, and a 50 percent increase in yields as compared with control areas. Average profits per mu were 60 yuan more than for places not using plastic mulch. In both south and north Xinjiang, tremendous increases in yields and in earnings were registered.

1. Mechanism and Results of Plastic Mulch For Growing Cotton

A look at production experiences everywhere in the use of plastic mulch to grow cotton shows that mostly during the early stages of crop growth the mulch provides the crop a very good environment for growth and development and necessary conditions.

(1) Increased warmth. The light energy of the sun's rays penetrates the plastic mulch to reach the ground beneath the mulch. Because the mulch

functions as a physical insulator, the soil cannot come in direct contact with the atmosphere, reducing opportunities for dissipation of heat through convection or in the form of moisture evaporation. As a result, temperatures rise quickly and high. According to data from 162 Regimental Farm in the Dacheng State Farm and Land Reclamation Bureau, between late April and late June, plastic mulched cotton fields were 4.6°C warmer than control fields at a depth of 5 centimeters, and 3.9°C warmer at a depth of 10 centimeters. After July, as temperatures rise and as the mulched cotton plants get tall, their stems and leaves growing vigorously and the area between rows closing with vegetation fairly early, the amount of light energy reaching the ground decreases and the difference in ground temperatures gradually declines or even becomes lower, and benefits from increased temperatures disappear.

In the Xinjiang reclamation area, temperatures are generally low during the period between sowing and sprouting of cotton, and changes in temperatures are fairly great. This directly bears on the early development of a full stand of plants and on growth of sturdy plants. It is one of the major reasons for low cotton yields. Because of the effect of plastic mulch in increasing warmth during the early stage of growth, this problem is pretty well solved.

(2) Conservation of water. Once plastic mulch is placed on the ground, the insulating effect of the plastic cuts off the exchange of water moisture with the atmosphere close to the ground, effectively controlling evaporation of soil moisture. At the same time, some vapor condenses into water forming beads of water on the under side of the plastic that drips back into the soil, moisture thereby being accumulated and stored in the soil's surface horizon, and loss of soil moisture being reduced. After the plastic has been put down, when the thermal gradient functions poorly, it promotes a steady movement upward in the soil of moisture from the deep horizon to increase the moisture content of the surface of the soil. Therefore, plastic mulch functions both to conserve moisture and to increase moisture.

(3) Improvement of the soil's physical properties, promoting transformation of soil nutrients. After mulching with plastic, because the soil no longer is directly impacted by rain falling at a rate of 9 meters per second in direct watering, the soil does not readily harden on top. In addition, the water vapor in the soil is expanded by heat and contracted by coldness in a repeated "expansion and contraction" movement that makes individual soil particles small, increases the size of fissures in the soil, and makes the soil friable. Measurements taken at the Shihezi Agricultural Institute showed a per unit weight for soil at a depth of from 0 to 30 centimeters to be about 0.1 gram per cubic centimeter less than for the control, and porosity to be from 3.8 to 5.7 percent greater than the control.

(4) Promotes Growth and Development of Cotton Plants

(1) The development stage is advanced. Survey shows the sprouting period for plastic mulch cotton plants to be between 4 and 7 days earlier than for the control; the onset of squaring to be between 13 and 16 days earlier, and the flowering period to be 12 to 14 days earlier. In consequence, a corresponding protraction of the effective growth period results, which is a

major element in the growth of sturdy seedlings and early development that produces increased yields.

(2) Much and rapid growth of root system. The rapid and healthy growth of mulched cotton root systems is particularly apparent during the seedling and the squaring stages. Observations of roots dug up on 20 June at the Shihezi Academy of Agricultural Sciences showed the main root of plastic mulch cotton to be 45.4 centimeters long as compared with 12.45 centimeters for controls. Roots on individual plants of the former numbered 29 as compared with 10 on the control. The average dry weight of individual plant roots was 0.93 grams for plants mulched with plastic as compared with 0.3 grams for controls, an increase of 47.6 percent.

(3) Speed of plant growth also rapid. Measurements taken at the 162 Regiment at Dacheng show a daily growth of 0.5 centimeters for the main stem of mulched cotton plants as compared with an increase of 0.1 centimeters for controls. During the squaring period it was 1.35 centimeters for the mulched plants, as compared with an increase of 0.55 centimeters for controls.

To summarize the foregoing, as a result of the early development, increased speed of plant growth and leaf division, the fairly great leaf area coefficient during the seedling and squaring stages, the strong photosynthesis, and the great accumulation of dry material, there is early squaring, early flowering, early bolling, early ripening, and high yields.

(5) Prevention of damage from salinity and alkalinity. Inasmuch as plastic mulch affects moisture movement in the soil, it must inevitably also affect the movement of salinity. In southern Xinjiang reclamation areas where soil alkalinity and salinity is fairly high, because of the sharp decline in water moisture evaporation in cottonfields mulched with plastic, accumulation of salinity in the soil's surface horizon was slow, amounts slight, the seedling death rate small, and the seedling preservation rate increased.

2. Major Techniques For Growing Cotton Using Plastic Mulch

The purpose of using plastic mulch in the growing of cotton is to improve the growth and development environment of the crop and to overcome disadvantageous factors to attain consistently high yields. But one cannot suppose that simply by using a sheet of plastic to cover the ground that it is possible to obtain consistently high cotton yields. It is also necessary to use corresponding advanced farming techniques based on the laws of cotton growth and development and local natural conditions to make fullest use of the role of plastic mulch in increasing yields.

(1) Good soil selection and sufficient fertilization. The growing of cotton under plastic mulch places fairly high demands on soil conditions. Moreover, soil fertility is the foundation for high cotton yields. Experience in producing cotton has shown that the central link in high yields is solution to the problems of sturdy seedlings with early development, steady growth and much fruiting, and prevention of bolting and early decline of plants. If soil fertility is inadequate, plants will be prone to weakness and early

deterioration, which will impair the benefits of increased yields realizable from the growing of mulched cotton.

When we extended the growing of cotton under plastic mulch over wide areas in 1981, serious care was given to selection of soil of high fertility on which the previous crops had been alfalfa, green manure, melons and vegetables, or wheat. Soils of low fertility were fertilized with between 6,000 and 10,000 jin per mu of base fertilizer. Before sowing (or before putting down the plastic), additional deep fertilization at individual layers was done using between 30 and 60 jin per mu of nitrogenous fertilizer and 20 to 50 jin per mu of phosphate fertilizer. For high yields from mulched cotton, a definite amount of fertilization must be done using nitrogenous and phosphate fertilizer, and the ratio of phosphate fertilizer has to be increased appropriately.

(2) Improved quality of land leveling and spreading of plastic. Increases in yields from cotton farming with plastic mulch is closely related to how well the plastic is put down, and how well the plastic is put down depends, to a very large extent, on how well the land has been leveled. Criteria for leveling the land are soil moisture, soil looseness, friability, evenness, flatness, and tidiness, and in the laying of plastic the three criteria of tightness, density, and substantialness must be practiced. In production anything in the way of technical requirements that is done well, increases warmth, conserves soil moisture, or eliminates weeds is good.

Acting on the basis of previous crop and soil, all units adapted general methods to local situations to raise ridges between fields or flatten them for the laying of plastic.

(3) Suitably early sowing in an effort to get sturdy seedlings that develop yearly. Because of the benefits of plastic mulch in increasing temperatures, ground temperature can rapidly reach the temperatures at which seeds sprout and put forth seedlings. Consequently, suitably early sowing can bring early growth of seedlings, early development, early squaring, lengthening of the period of effective boll formation on cotton plants, and full use of potential for increased yields of cotton. In 1981, the cotton that was down under plastic around 20 April produced seedlings at the end of April. Squaring began in May; flowering began in mid-June; and by early July at the beginning of summer, there were from three to five bolls per plant.

The period for sowing must be 7 to 10 days before late frosts, i.e. sowing before the season for frosts ends for emergence of seedlings after the season frost ends in order to avoid frost damage.

(4) Reasonably close plantings that are evenly spaced. Both root growth and above ground vegetative growth of plastic mulched cotton are rapid. The plants grow tall and close the spaces between rows with their vegetation early, leading to a shading of the fields. Thus, plant density must be somewhat less than for cotton grown without plastic mulch.

In laying out distance between rows, the method of large and small ridges (i.e. wide and narrow rows) is a fairly good one, using a distance of 60 to

70 centimeters between rows with each ridge having double rows (wide and narrow rows). The advantages in thus using plastic mulch are a saving in plastic, and a saving in labor, convenience in machine laying of the plastic, and convenience in carrying out irrigation, fertilization, insect control and such field work.

(5) Irrigation at the right time in the right quantity. Water is a rather variable element in the growing of cotton, the promotion or control of cotton growth being done through watering.

This year use of plastic mulch in the growing of cotton in Xinjiang Province reclamation areas will be expanded over 500,000 mu. This will represent an expansion from 3 state farm and land reclamation bureaus in 1981 to 10 state farm and land reclamation areas this year over a wide area. Cotton growing has to be done in a certain season, and during spring the time when plastic is put down and seeds sown is fairly concentrated; use of labor is substantial, and conflicting demands for labor are fairly strong.

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METHODS FOR SPRING WHEAT WATERING, FERTILIZATION EXPLAINED

Beijing RENMIN RIBAO in Chinese 28 Mar 82 p 3

[Article by Reporter Wang Yougong [3769 0645 1872]: "Scientific Reform in Wheatfield Care. Zhang Jinxi [1728 6930 3556] and Zhu Dehui [6175 1795 6540] Successfully Experiment With 'Leaf Age Indicator Advance and Retard Method'"]

[Text] A series of simple, convenient, and remarkably effective new wheatfield care methods--"leaf age indicator advance and retard methods" are rapidly being spread in winter wheat growing areas north and south.

These new methods use the number of leaves (leaf age) that appear on the main stem of wheat during the first lunar month as an indicator for the adoption of watering and fertilization measures to promote their development or retard their growth for the purpose of increasing yields. Specifically this method consists of the following: Before the wheat's overwintering begins, winter irrigation (possibly combined with a top dressing of fertilizer) is provided to give a first push to assure that the soil will have sufficient moisture and nutrients following greening up in the spring. Following greening up, the soil is cultivated to conserve its moisture and to restrain growth for root development. Around the time that the fifth leaf from the bottom of the main stem begins to appear (but before stem extension), a top dressing of fertilizer and a second water is given to increase the spiking rate. During the stage when the third and fourth leaf from the bottom of the main stem appear, the soil is cultivated again to restrain seedling growth for root development, retarding leaf growth between joints at the base of the plant and at the top of the plant for the prevention of lodging. During the stage when the boot leaf or the second leaf from the top appears, which is the jointing and booting stage, another application of fertilizer and watering is done to promote development of large spikes. Taken together, this series of methods is called the "method three advances and two retards," and it has also been descriptively called the W-type method of care. If the soil is fertile, seedling growth vigorous, plant colonies fairly large, and soil moisture conditions immediately following the lunar new year rather good, the fertilization and watering before the leaves begin to stand up may be omitted, and the root formation period extended. In this case, the method is called the V-type method of care.

Wheatfield care measures show strong regionality. Because of differences in climatic conditions north and south, it is difficult to make hard and fast rules concerning the previously suggested various methods of care, or about climate and other natural phenomena of any given season. But if one is to require care "depending on the season, the place and the condition of seedlings," the masses will feel this is "not to the point," and hard to grasp. Can't a series of care methods of general applicability everywhere be found! Zhang Jinxi, director of the Crop Institute of the Chinese Academy of Agricultural Sciences, and Zhu Dehui of the Crop Institute of the Beijing Municipal Academy of Agricultural Sciences have worked since 1975 on wheat's biological laws, particularly on the growth and development relationships of leaf age and internal organs (such as roots, stems, tillers, joints, leaf sheaths, and spikes), as well as on the effect of care measures such as fertilization and watering at different leaf ages on the growth and development of individual organs. They discovered that the "residual of leaf age" may be better used as a universally applicable indicator of when to fertilize, to water, and to cultivate in spring care of wheatfields.

During 1979, this series of care measures was first extended over a wide area in suburban Beijing. In 1980, the Ministry of Agriculture included them among its key items for promotion, and during the same year, these methods were put to use on more than 1 million mu of wheatfields everywhere, both north and south. Experience has shown that if diligently applied, they can increase yields by between 10 and 15 percent. Recently at Wen County in Henan Province, an on-site "leaf age indicator, advance and retard method" meeting was held that was attended by people from Hebei, Shanxi, Shandong, Henan, Shaani, northern Jiangsu, Anhui, Beijing, and Tianjin. The masses have reported that this series of care measures has several advantages. One is that tending the wheat according to the look of the leaves is a clear indicator that is easily mastered. Second, as compared with former care methods, generally watering one or two times less can be done for a saving in water and labor, and a reduction in costs. Third, these series of techniques are able to effectively readjust soil moisture conditions and seedling condition, to promote tillering, and to prevent lodging. According to incomplete statistics, the demonstration and promotion area in the aforementioned nine provinces and two cities has been expanded to more than 3 million mu.

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FUNGUS-RESISTANT PROTECTIVE COATING FOR PLANTS DEVELOPED

Beijing RENMIN RIBAO in Chinese 27 Mar 82 p 2

[Article by Reporter Yang Chuanchun [2799 0278 2504]: "Chinese Academy of Agricultural Sciences Successfully Develops 'Plant Disease Protective Coating'"]

[Text] After many years of effort, the agricultural meteorology research office of the Chinese Academy of Agricultural Sciences has successfully developed a "plant disease protective coating" to prevent powdery mildew and downy mildew of cucumbers, anthracnose and ring rot of apples, and such fungus diseases of plants, which is remarkably effective.

For many years, both in China and abroad, important research and development of chemical pesticides to control plant diseases has been accompanied by problems of pesticides with residual toxicity and plant diseases resistant to pesticides. In 1975, assistant researcher, Comrade Liao Zongzu [1675 1350 2469] in the agricultural meteorology office of the Chinese Academy of Agricultural Sciences, while in the process of studying control of moisture in soil and plants, began to develop a "plant disease protective coating," and conceived of using this high polymer compound that forms a membrane for spraying on the surfaces of plants to form a coating with tensile strength, but which is virtually invisible to the naked eye, thereby depriving oxygen and moisture to fungus that cling to plant surfaces, preventing fungus hypha from penetrating plant cells, thus achieving the goal of physically preventing plant diseases.

In 1980 after the development of "plant disease protective coating" was finalized, Beijing Agricultural University, Beijing Municipal Nankou Farm, and Dongsheng Commune in Beijing's Haiding District conducted field experiments. Last November at the Bajia No 1 Brigade in Dongsheng Commune, in a cucumber patch that had not yet developed downy mildew, they conducted controlled experiments using clear water, the pesticide aliete, and "plant disease protective coating." Results were a 48.5 percent incidence of disease for plants on which clear water had been used, a 3.5 percent incidence for plants on which aliete had been used, and a 4.7 percent incidence for plants on which "plant disease protective coating" had been used. This shows an effectiveness in preventing disease of the "plant disease protective coating" that rivals that of the pesticide. At the Qianbajia No 1

Brigade in Dongsheng Commune last year, cucumber yields were only slightly more than 2,000 jin per mu as a result of serious incidence of powdery mildew. This year, following spraying with "plant disease protective coating," yields increased to somewhat more than 4,000 jin per mu.

The coating formed by "plant disease protective coating" does not impair plant photosynthesis or normal growth and development. Raw materials for this coating are abundant within China, and it is suitable for assembly line production and large area use.

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BRIEFS

PEST, CROP DISEASE--According to the general survey station for crop diseases and pests under the Ministry of Agriculture, Animal Husbandry and Fishery, due to unfavorable weather conditions in various localities, cotton aphids have been reported in Hubei, Jiangsu, Anhui, Shaanxi, Shanxi, Henan, Shandong and Hebei provinces since last May. Hubei and Shaanxi are most seriously hit. Besides, rice blast has become prevalent in Fujian, Guangdong, Guangxi, Hunan, Jiangxi and Zhejiang provinces. The station called on various provinces to pay good attention to field inspection in order to prevent crop diseases in June. [OW271247 Beijing Domestic Service in Mandarin 1000 GMT 26 May 82 OW]

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PRODUCTION MANAGEMENT UNDER CONTRACT SYSTEM DISCUSSED

Beijing GONGSHE CAIWU in Chinese No 1, 6 Jan 82 pp 28-30

[Article by Nanchong Prefecture Agriculture Bureau: "Survey of Production Team Collective Property Management Situation When Output Quotas Are Linked to Individual Able-Bodied Laborers, Output Quotas Are Fixed for Households and Peasant Households Assume Responsibility for Task Completion"]

[Text] We recently conducted a survey of production team property management when output quotas are linked to individual able-bodied laborers, output quotas are fixed for households and peasant households assume responsibility for the completion of tasks. All jurisdictions did a large amount of work in production team collective property management, exploring and accumulating many new methods and new experiences which play a definite role in the maintenance of the rural socialist collective ownership system. These methods were as follows:

1. Management of the raising and use of plow oxen. All jursidictions proceeded from convenience of animal use and helpfulness in protecting collective property, and adopted general methods to local situations, using diverse methods. The specific methods were: 1) Specialized people raising the animals and specialized people using them with stipulated tasks, signing of contracts and fees being charged for raising and using animals for cultivation. The First Production Team of the Fourth Production Brigade in Dongguan Commune, Nanchong County, has eight oxen, use of which is allocated by the commune. Eight people are in charge of feeding the oxen, and two plowmen are permanently assigned to each ox. Fees are collected for raising the animals and for using them in farming. Annual compensation collected for the maintenance of each draft ox amounts to 134 yuan (including sums paid for raising them, for their use in plowing and for their manure). Plowmen receive a fee of 4 yuan for every mu they cultivate (four plowings and four harrowings). 2) Plow oxen are sold at a converted price to commune members who are able to raise and use them, in a combination of nurture and use. Contracts are signed, and when oxen are used for cultivation, fees are collected. The First Production Team of the Third Production Brigade of Jinfeng Commune, Nanchong County, sold five oxen at converted prices to five commune members, the funds received going into public accumulation funds deposited in a special production-team savings account. A cultivation fee of 1.20 yuan per mu is charged for dryland, and 1.50 yuan per mu per

cultivation is charged for wetland (2 yuan per mu during the extremely busy season). Once an ox has been engaged by a household for cultivation and a contract has been signed, should any party refuse cultivation he is liable for payment of half the cultivation fee. 3) When plow oxen are turned over at a converted price to several households for their joint use, the several households are to raise payment funds in common, clearing the account within 3 years. Payment for the ox reverts to public accumulation funds and is deposited by the production team in a special account. 4) When a specialized household raises an ox for use in common by several households, a value is assigned the plow ox, and its use is guaranteed for a fixed number of years. The funds are taken in for depreciation each year (and deposited in a special account). If the ox is used longer than the specified number of years, a bonus goes to the production team; if the ox does not last for the specified number of years, the production team pays an indemnity. The Second Production Team of the Fifth Production Brigade in Linglong Commune, Yingshan County, has 21 plow oxen specially raised by 21 households and assigned to user households. Green grass for the oxen was cut by the hosueholds that raised the oxen, and straw was figured on the amount of the fixed output quota--half a jin of straw for the oxen being turned over per jin of output--with the ox manure being divided according to the fixed output figure. Workpoints for raising the oxen could be used for a share of money but not for a share of grain. 5) An ox was assigned user households, several households using the ox in common and taking turns caring for it. The plow oxen were assigned a value and a period of years of use set, with the production team collecting depreciation fees each year (for deposit into special accounts). If the number of years of use was exceeded, production teams received a bonus; if less, they paid an indemnity. Households lacking resources to raise oxen engaged someone to help them feed one; they had to provide the hay for the ox, but were not entitled to any of the ox manure.

2. Management and use of industrial farm implements, machinery and tools. These are generally not only small farm implements, small farm tools and utensils that are really of no use to production teams but have been assigned a value and sold to commune members, with the handling being done according to their original cost following discussion and agreement at a commune member meeting followed by approval from the commune, but also other large- and medium-size farm implements assigned a value to protect the investment in them, and a number of years of use established, for which a depreciation fee is collected annually (and deposited in a special account); a bonus is paid if they exceed the specified number of years of use, while an indemnity is paid if they do not last that long. Plows and harrow that are paired with oxen, waterwheels, winnowers, threshing buckets, threshing machines and such large- and medium-size farm implements used in common by several households (or individual compounds) are maintained by a special person who is paid a reasonable remuneration according to a reward and penalty system. Large- and medium-size grain drying and storing equipment, such as sunning mats, board storehouses, chests and barrels, as well as tools used for capital construction of farmlands that are in excess of quantities needed by or are not useful to production teams and are maintained by a specific person, may be rented to commune members or assigned

a value and sold to them. The Eighth Production Team of the Fourth Production Brigade in Linglong Commune, Yingshan County, fixed limits for use of all the large- and medium-size farm implements in the production team, assigned a value to them so as to protect the investment in them, fixed a number of years of useful life for them, and collected depreciation fees for them year by year (the fees were deposited in a special account). A bonus was paid if they exceeded the set useful life, and indemnity was paid if they did not. All the utensils, facilities and capital construction equipment used by the production team for grain storage were put in a storage room under control of the production team head, and bonuses were paid or penalties levied on the annual compensation paid the 30 workers who looked after them on the basis of how well they were maintained.

Machine equipment was invariably under unified production team use arrangements and could not be dismantled, damaged or sold. The methods used were as follows: 1. Machinery assigned for sole use by teams or individuals on contracts for net earnings to be turned over to production teams. The Third Production Team of the Sixth Production Brigade in Changle Commune, Nanchong County, contracted out a hand tractor, a rice thresher and a grinder to individuals, annually receiving from the contractors a net profit of from 350 to 450 yuan for the production team; maintenance fees were the responsibility of the contractors, and no workpoints were given. 2. Rental of machinery to individuals and individual accounting, and earnings divided up. The Third Production Team of the Sixth Production Brigade in Banzhu Commune, Nanchong County, rented a noodle-making machine to an individual who borrowed 300 jin of wheat from the production team as initial capital. Individual accounting was done, with 40 percent of the net profits going to the production team and 60 percent going to the individual. The production team provided no expenses and recorded no workpoints. 3. Rental of machinery to individuals with collection of rental contract fees. The 11th Production Team, 13th Brigade, Chengguan Commune, Nanchong County, rented a noodle-making machine to a person, annually collecting from him 60 yuan in rental contract fees.

3. Public building management and use. The production team's public buildings, including industrial sideline occupation plant buildings, maintenance buildings, pigstyes, cattle sheds and high-temperature buildings and cellars, a small number of dangerous buildings or unusable thatch buildings excepted, could generally be dismantled or sold at a converted price, following discussion and agreement by the masses and agreement by the commune, with the proceeds going into public accumulation funds. Use of the portions not going into special credit cooperative accounts would be arranged by the production team. Some of it was used to operate collective industrial sideline occupations or saved to maintain collective assets and resources. Some was used for production team conference rooms and classrooms, or to operate schools or other welfare endeavors. Some was loaned to commune and brigade enterprises or to commune members, with the rental funds reverting to the production team. Whoever occupied a building was responsible for keeping it in repair, and dividing it up was not permitted. The Seventh Production Team of the 12th Production Brigade in Boyang Commune, Feng'an County, rented to an orange team, and to a commune member

household each room of a three-room storeroom (a tile-roofed building) as a generator room, collecting 5 yuan a year per room in rent. It also rented a three-room pigsty (with a tile roof) to three separate commune families with a large number of people whose house was crowded. The Eighth Production Team of the Fourth Production Brigade in Linglong Commune, Yingshan County, continued to use the production team's large high-temperature room to keep sweet potatoes for commune members; the head of the financial team was put in charge and received 50 workpoints in compensation each year. Each year a single household could store 18,000 jin in the cellar in a large bamboo basket with excellent results.

4. Management and use of sunning grounds. The range of uses was generally assigned on the basis of the sunning ground situation. The Seventh Production Team of the 12th Production Brigade in Boyang Commune, Feng'an County, assigned sunning grounds in conjunction with threshing buckets; the masses were very pleased.

5. Management and use of water conservation facilities. All jurisdictions attached great importance to water conservancy facilities such as ponds, reservoirs and weirs, generally managing them very well. Responsibility systems for management and use of water were also rather well implemented. It was in water storage fields where problems were fairly numerous. So that existing water storage fields would continue to play a role and not be adversely affected because of changes in responsibility systems, the action that many communes and brigades took was as follows: 1) They made water storage fields into publicly owned fields under the control of the production team and individually contracted them out, but established a strict system of water management and water use. 2) They appropriately adjusted downward target quota criteria for water storage fields and contracted them out to commune members. After lowering by 10 percent the target output criteria for two water storage field plots (4 mu), the 11th Production Team of the 13th Production Brigade in Chengguan Commune, Nanchong County, contracted them out to commune members. 3) As a result of production team administration of water storage, everyone benefited equally. In the First Production Team, First Production Brigade, in Heping Commune, Nanchong County, the production team administered the water storage, and every household invested funds and planted seedlings; every person delivered four buckets of liquid manure, 1 dan of ash fertilizer and 1 jin of urea to the water storage field, the output being divided among all.

6. Management and use of forests. The general method for managing and using forests was as follows: For economic forests in single tracts, a system of specialized contracting with remuneration linked to output was put into effect with rewards and penalties for overfulfillment or underfulfillment of contracts. For lumber forests in continuous tracts, management by specialized teams or specialized personnel was instituted in a "four fixed" responsibility system of fixed personnel with fixed duties, for fixed remuneration and fixed rewards and penalties. For scattered woodlands on large areas of land for which production was contracted, the woodlands were made a part of the land contracted to commune members for management, and a system instituted of either payment of fixed output quotas to higher authority or division of earnings.

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HIGH OUTPUT OF ECONOMICALLY DIVERSIFIED GOODS ENCOURAGED

Lanzhou GANSU RIBAO in Chinese 31 Jan 82 pp 1, 2

[Article: "Decisions On Development of Rural Economic Diversification by Gansu Provincial CCP Committee and Gansu Provincial People's Government"]

[Excerpts] From 2 to 7 December 1981, the Provincial CCP Committee and the Provincial People's Government held a provincewide conference on rural economic diversification. The conference diligently summarized and exchanged experiences during the past 2 years in the province's development of economic diversification, compared advanced prefectures in the province in a search for disparities, and studied further implementation of the guiding spirit of the CCP Central Committee and the State Council on development of rural economic diversification. Below appear the decisions taken on problems relating to development of rural economic diversification in Gansu Province.

1. Continued Solution to Problems of Ideological Perception, Devoting Efforts to Development of Economic Diversification as a Strategic Task in Making the Rural Economy Flourish

Ever since the Third Plenary Session of the 11th Party Central Committee, and particularly following issuance of CCP Central Committee Document No 13 (1981), all levels of the party organization and people's government in Gansu Province have attached great importance to the job of developing economic diversification, and have made definite accomplishments. A change has begun in the internal structure of agriculture, and output value from economic diversification as a ratio of gross output value of agriculture climbed from 38 percent in 1979 to about 45 percent in 1981. However, our mentality has not been sufficiently liberated and our hands and feet are not yet fully free as regards problems in development of economically diversified production. The single crop mentality of some places has not been fundamentally turned around. We must make up our minds to solve problems in these regards and to do a solid job of carrying economic diversification forward.

2. Devoting Attention to Programming and Planning Work For Planned Step by Step Development of Economically Diversified Production

In order to advance economic diversification, a program that seeks truth in facts and inspires people must exist. The province's programming, led by the

Provincial Agricultural Commission, and the joint responsibility of the Agricultural Planning Commission, the Financial Office, and the Planning Commission is to be put forward before the end of June 1982. Programs for economically diversified production are to be carried out simultaneously with natural resources surveys and agricultural zoning. Programs and plans are to proceed from realities, highlight one's own strengths, and take other factors into account. Program criteria and annual plans must simultaneously take into consideration factors such as the raising of funds, technical conditions, natural and labor resources, and relationship between supply and demand. They must make full use of the province's strengths in abundant labor resources and plentiful natural resources, and accomplish much with the spending of little money.

In formulating programs, all prefectures are to give development of the livestock industry and forestry a strategic position in the transformation of the structure of agricultural production. The potential for development of the livestock industry is very great in both pastoral and agricultural areas, and a myriad households are able to engage in it. The planting of trees and the growing of grass is one of the key points in transforming the basic conditions for agricultural production in Gansu Province, and are also major projects for development of economic diversification. All jurisdictions should attach extremely great importance to the building of economic forests, timber forests, and fuel forests. While continuing steady growth in grain output, the area for growing of various economic crops should be suitably increased. Rural villages should actively develop on-site processing, selection, and comprehensive utilization of agricultural sideline products. Rural processing industries, unlike various large industries that compete for raw materials, duplicate plant construction, and give extremely great attention to economic benefits, will have their programs coordinated with communes and brigades by departments in charge for step-by-step development to avoid blindness in action.

Development of economic diversification requires full arousal of the enthusiasm of both the collective and individuals. The collective should do whatever the collective should properly do, and peasant households or an assemblage of several commune member households should engage in whatever is suitable for individual commune members to do. In undertaking economic diversification, the collective should set projects, should reserve the land, the forestland, and the wasteland necessary for development of economic diversification, should regularize workforces, and should follow the principle of producing what can be conveniently produced and whatever is beneficial, unifying whatever lends itself to unification, and decentralizing whatever lends itself to decentralization. All kinds of specialized units, teams, households, and industries should be established, and contracts that "fix quotas, contract production or tasks, and provide rewards" used to do a good job of collective economic diversification. For items that are to be under the purview of individual commune members, communes and brigades should actively organize and support the genuine bringing into play of the role of myriad households, males, females, the old, and the young. When projects are jointly administered by several households of commune members, the principle of voluntary participation and mutual benefit must be adhered to; rules and regulations to be jointly honored should be formulated, and matters handled strictly in accordance with regulations.

Provincial CCP Committee and Provincial People's Government regulations on the delimiting of "three wastelands" for the use of commune members should continue to be implemented. Places meeting conditions should be delimited to the maximum extent possible for commune member use, ownership of trees and grasslands planted by the masses belong to whomever planted them with no change for a long period of time.

Vigorous advocacy and active support should be given commune member household sideline occupations. Units concerned should provide fine varieties, enhance technical guidance, increase capabilities for storage, hauling, and processing, and enliven commodity circulation channels. Encouragement should be given to working to become prosperous. Effective action should be taken and support given to hardship households to help them develop production so as to change their straitened circumstances with all possible speed.

Vigorous support should be given households specializing in planting, breeding, and processing, and to development of a jointly managed economy. The appearance of various kinds of specialized households and jointly managed economies makes a fine start in agriculture's movement toward specialization and socialization, and marks a new point of departure for the modernization of agriculture. Specialized households and jointly managed economies should be given political encouragement, technical guidance, and financial and material support in the fields of supply, production, marketing and hauling, and should be treated in the same way as the collective economy.

Commune and brigade enterprises are a major force in development of rural economic diversification, which should continue to be readjusted and diligently reorganized to bring about genuine change in the chaotic situation of indiscriminate meddling, arbitrary egalitarianism and indiscriminate transfer of resources, and corruption and misappropriation, to further correct the orientation of production, focus operations on the processing of agricultural sideline products, and to promote development of the planting and breeding industries to provide society commodities of diverse kinds.

Good management and good use should be made of funds from all trades and industries for the support of agricultural sideline production, and building of bases should be intensified to promote development of commodity production.

4. Active Development of Scientific Research and Technological Development Work For an In-Depth and In-Breadth March Forward in Production

All levels of agricultural research units and related research units should place economically diversified production on their daily agenda. They should widely develop research activities on the basis of actual needs for development of economic diversification in order to serve production. They should diligently summarize the accumulated experiences of the masses in the practice of production. They should particularly promote, with great vigor, those projects requiring little expenditure of money, that show quick results, and that have high economic value.

Agricultural science departments and related units should establish direct relationships with economically diversified specialized units, teams, and households, signing technical contracts for prevention and control of epidemic diseases, breeding of fine varieties, imparting of technical skills, and for processing and storage. State-owned agricultural, forestry, and livestock farms should also actively breed fine varieties of breeding animals, breeding poultry, eggs for hatching, and seedlings and saplings required by society to supply needs. All who make outstanding achievements in this regard should be given commendations and rewards.

5. Under Guidance of State Plans, to Give Attention to Bringing Into Play the Regulatory Role of Markets and Encouragement to Development of Economic Diversification

In the development of rural economic diversification, adherence must go to the dominant role of the socialist planned economy in bringing into play the regulatory function of markets.

(1) All economically diversified products in the unified procurement or quota procurement category should be provided for in contracts signed by state-owned commercial units or supply and marketing cooperatives with production units or individuals. The contracts should clearly set forth responsibilities and be strictly honored. Under usual circumstances, whenever a party fails to live up to a contract, thereby causing losses for other parties, the other parties have the right to demand payment of economic compensation. In case of dispute, industrial and commercial administrative and management departments should mediate, and when mediation is ineffective, the courts may arbitrate.

(2) In the case of unified procured and quota procured products, departments concerned are to refer to the actual average procurement figures for 1978, 1979, and 1980 to establish equitable base figures for procurement to remain in force for several years. In cases where it is difficult to set base figures for certain kinds of goods, an equitable ratio between procurement and retention should be set. After unified procurement and quota procurement tasks have been fulfilled, except for those goods for which the state has stipulated that market trade should not be permitted, all other goods may be traded in markets by producing units, or may be purchased by the state at negotiated prices or exchanged for scarce industrial goods.

(3) All agricultural sideline products that have piled up in the hands of the masses as a result of mistaken guidance plans should be bought back at market prices, and new marketing avenues actively opened for them. For goods that are in oversupply as a result of blind production, pertinent departments have responsibility for helping the masses find marketing outlets, reducing, insofar as possible, losses to producers.

(4) In order to promote development of economic diversification, all jurisdictions can establish commune and brigade collectively operated trade warehouses. Trade warehouses could purchase and sell goods left over after centralized procurement and quota purchase tasks have been fulfilled; could organize communes, brigades, and commune members to process raw and processed materials, and have sole selling rights for their products; and could organize their own sources of supply, within the scope permitted by state plans, to satisfy market demand.

(5) Some individual business households and joint production, hauling, and sales businesses should be revived and developed. They should be linked to state-owned businesses, or to supply and marketing cooperatives, and be organized for door-to-door sales in the countryside. They could also set up retail outlets in cities and towns to do both buying and selling, themselves being responsible for profits and losses. Economically diversified production units and processing units could operate shops behind or in front of plants, for the sale of their own products, and they could skip intervening links to sell the products they produce directly and face to face. Industrial and commercial administrative departments should give them the green light for this, issue business permits and, except in cases of those engaged in profiteering and illegal sales of prohibited items, they should not arbitrarily interfere.

(6) Price problems. Since the Third Plenary Session of the 11th Party Central Committee, the state has raised procurement prices paid for agricultural sideline products, and it has made some needed readjustments in procurement policies as a result of which the peasants have gained very great benefits. It is necessary to stabilize these effective and workable policies, and in order to take care of the vested interests of the peasants, to assure continued steady development of agricultural production. Owing to the current national financial situation, for some time in the future a policy of basic stability will be followed in procurement prices paid for agricultural sideline products. Increases in peasant earnings cannot be expected to come from increases in procurement prices paid or from a lowering of procurement base figures but rather can come only primarily from reliance on the development of commodity output and the selling of a large quantity of goods in great demand.

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CSO: 4007/255

BRIEFS

DIVERSIFIED ECONOMY--The Qingyang branch office of the Chinese Agricultural Bank has vigorously supported communes and brigades and commune members in developing diversified economy. In 1981 the office loaned 1,100 commune members some 280,000 yuan to help them develop household sideline production, enabling them to make 410,000 yuan income in 1 year. Since 1980 the office has released 261,000 yuan of loans to set up 63 cattle farms. The office has also financed the establishment of commune- and brigade-run enterprises and some service businesses. In 1981 the office was able to withdraw 4.09 million yuan of agricultural loans, 70 percent of the total loans issued. [SK301115 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 28 May 82 SK]

GAOTAI COUNTY ECONOMY--Gaotai County of Gansu Province has substantially developed diversified economy. Last year, the county's income from developing diversified economy reached 14 million yuan, 25 percent higher than in previous years. The county's grain acreage has stabilized at 220,000 mu. Some 2,000 mu of saline-alkali lands have been used to plant sugar beets, and some 5,000 mu of farmland have been returned to forestry departments. [SK271156 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 26 May 82 SK]

CSO: 4007/429

TORRENTIAL RAINSTORMS REPORTED OVER

HK030337 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 2 Jun 82

[Text] In recent days Zhuhai municipality has had its heaviest rainstorms in 80 years. In 3 days beginning on 28 May, rainfall at (Sandao) commune, where precipitation was the heaviest, reached 935 mm. Dangerous situations arose at five reservoirs in the municipality. Thanks to heroic crash-repair work carried out by the cadres and masses and the local PLA, the dangers were all eliminated.

From 28 May to 2 June, heavy rain, torrential in places, fell throughout Huiyang Prefecture. Rainfall was about 300 mm in Boluo, Dongguan, Huiyang and Huidong counties and Huizhou municipality, in the southern part of the prefecture. By 2300 hours on 2 June, the water level on the Dongjiang at Huizhou was 12.91 meters. The danger mark is 13 meters. The flood-crest level is expected to reach 14 meters at about 2000 hours on 3 June.

According to the provincial meteorological station, the heavy and torrential rains that fell throughout Guangdong at the end of May and the beginning of June are now over. The heavy rain began in the northwest part of the province on 27 May. According to incomplete statistics, heavy rainstorms occurred in 79 counties. Maximum rainfall in a 24-hour period occurred in Zhuhai, Huilai, Shanwei township in Haifeng, and Doumen. Fourteen countries and municipalities had more than 100 mm of rain in a day.

According to an analysis of meteorological data, the major rain area over the province moved southeast on 2 June, where it weakened and dissipated. Thus the heavy and torrential rains of the past 7 days are over. The province will have no heavy rain on 3 and 4 June.

CSO: 4007/429

BRIEFS

SPRING HARVESTING--Guangzhou, 25 May (XINHUA)--Guangdong Province has completed harvesting of spring crops. The province reaped 1,173,000,000 jin of spring grain, up 2.18 percent from the 1981 yield. The province this year has increased soybean production by 20 percent, tobacco by more than 10 percent and vegetables by a big margin, as compared with last year. [OW301409 Beijing XINHUA Domestic Service in Chinese 0150 GMT 25 May 82 OW]

CSO: 4007/429

MOBILIZATION OF FORCES TO FIGHT DROUGHT SURVEYED

Notice Issued

Shijiazhuang HEBEI RIBAO in Chinese 13 May 82 p 1

[Article: "Provincial Military Region Political Department Issues Notice Calling on Subordinate Units and Masses of Militia To Join at Once in the Struggle of "One Resistance and Two Guarantees"]

[Text] On 11 May the Provincial Military Region Political Department issued an urgent notice requiring subordinate units and militia throughout the province to take action at once in a determined response to the provincial CCP Committee's and the provincial government's call to join actively in the fight against drought and to contribute forces to spring plowing and production in Hebei Province to win a bumper summer grain harvest.

The notice pointed out that drought conditions in the province are now extremely serious and pose a serious threat to spring planting and wheat growth. It required all levels of military units to handle as a central task the organization and mobilization of militia in joining the struggle "to resist drought and guarantee spring planting and summer harvesting." It also required centralized planning of all work under the guidance of CCP committees to assure smooth progress in the fight against drought. Cadres at all levels in military units are to go down onto the frontlines of the fight against drought, and work shoulder with the militia in fighting drought.

The notice required intensification of political ideology work among the militia. Militia are to be organized for conscientious study to implement the "Summary of Minutes of the National Rural Work Conference," and for further improvement of various forms of production responsibility systems. Militia are to be taught to overcome a passive mentality of waiting for rain to fall from the sky, to build up their confidence in combating frought to win a bumper harvest, to carry forward a spirit of self-reliance and arduous struggle, and fully to use prevailing conditions to do a good job of fighting drought, doing spring planting, and caring for the wheat.

The notice required subordinate organizations and military units actively to organize manpower and material to support local fights against drought. Military unit farms and production sites are to carry forward their fine style and accomodate the masses; they may not compete with the masses for water or for advantage. In the course of supporting local areas in fighting drought, military units should help the dependents of martyrs and servicemen as well as households enjoying the five guarantees [childless and inform old persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's communes] to carry on production in order to further cement relations among the government, the armed forces, and the people.

Additional Efforts Urged

Shijiazhuang HEBEI RIBAO in Chinese 13 May 82 p 1

[Article: Provincial CCP Committee and Provincial Government Leading Comrades Go Deep Into the Frontline of Struggle Against Drought. Conscientiously Investigate and Study, and Diligently Strengthen Leadership.

[Text] In order to win total victory against drought to preserve the summer harvest and to protect spring sowing, recently the provincial CCP Committee decided that organizations directly subordinate to the province should transfer a group of cadres led by principal leading comrades in the provincial CCP Committee and the provincial government to go deeply into the frontline of the struggle against drought, to further guide and give impetus to the launching of a extensive struggle against drought in all jurisidctions.

Among the comrades in charge from the provincial CCP Committee and provincial government who went to the frontline were Jin Ming [6855 2494], Wang Zheng [3769 6927], Guo Zhi [6753 1807], Yang Zejiang [2799 3419 3068], Wang Dongning [3769 2639 1380], Wang Kedong [3769 0460 2639], Li Yongjin [2621 3057 6651], Yang Naijun [2799 0035 0193, Li Feng [2621 6912], Xu Ruilin [1776 3843 2621], and Han Qimin [7281 0796 3046]. An additional 17 comrades in charge of offices, commissions, agencies and plants, and youth and women's organizations directly subordinate to the province went.

Hebei's drought continues and has become extremely serious. Most prefectures have had 4 years of continuous drought, and in some places the drought has gone on for 5 years. Major waterways have stopped flowing, and reservoirs and ponds have dried up. The water table has fallen by a general 2 to 3 meters or by as much as 4 or 5 meters. Additionally, since the beginning of May several six or seven degree windstorms have struck, which have not only made the drought situation more serious, but have also been extremely bad for the wheat and cotton. As a result of the drought, cotton sowing plans could not be fulfilled in some places, and more than 10 million mu of crops that should have been sown in the spring will now be sown in the summer. In some places death from drought, lodging, and parching of the bootleaves of wheat is rather severs. On 11 May, faced with serious drought, the provincial CCP Committee and the provincial government separately convened a mobilization meeting to go down to the countryside to fight drought. Taking part were comrades in charge of various departments, branches, committees, and offices. They called upon comrades going to the countryside to become closely involved with realities, investigate and study, and unite closely with the masses. They should help grassroots cadres concentrate their major efforts and attention on fighting drought; help feeble and lax grassroots teams quickly carry out reorganization, rally spirits, and actively lead the masses in launching a struggle against drought; and help grassroots teams formulate strong measures for countering drought, particularly establishing and perfecting pump well irrigation responsibility systems. In places where rain has fallen, the masses should be aroused to take advantage of soil moisture to rush planting, to check on cotton seedlings, and add seedlings where there are gaps.

Editorial Pep Talk

Shijiazhuang HEBEI RIBAO in Chinese 13 May 82 p 1

[Editorial: "Be Determined To Win Complete Victory in 'One Resistance and Two Guarantees'"]

[Text] "Beginning of summer" [around 5 May] has passed, and the province's struggle to resist drought to guarantee a summer harvest and to resist drought to guarantee spring planting has come to a crucial juncture. At this critical time, party and government leaders at all levels should be personal models, go personally into the frontline of the struggle against drought, and use every available means to come to grips with the present struggle against drought. They should strive for good wheat and cotton harvests this year, and lay a good foundation for winning an all around bumper harvest in agriculture this year. This is extremely necessary.

This year's drought in Hebei Province follows on the heels of 4 to 5 years of continuous drought. Last winter and this spring little snow or rain fell. This plus consecutive years of drought has meant a great decline in the amount of water in storage everywhere and a great drop in the ground water table. Some reservoirs and ponds have dried up; watercourses have ceased to flow, and in a small number of villages, drinking water for people and animals has become a difficult problem. Recently high winds have blown continuously for several days causing tremendous evaporation of moisture from the soil. Now more than half the province's total land area has been stricken by drought, and some wheat has developed incompletely because of the drought. Some cotton, peanuts and spring sown food crops such as potatoes have not been planted on time, and some that have been planted have not cropped up. Some of the seedlings that have come up have been parched to death by the drought or winds. Faced with serious drought, all levels of CCP committees and government throughout the province must make "one resistance and two guarantees" the central task in rural work. All other work must center around and be linked to this central task.

It must be clearly realized that though great achievements were made during the previous period in the struggle against drought in the province, difficulties are still very great and the drought situation continues to sorsen. Winning complete victory in resisting drought to guarantee the summer harvest, and resisting drought to guarantee spring planting will still require arduous efforts over a long period of time. We cannot be the slightest bit complacent o let down our guard. Nor can we slacken our fighting will because a little rain has fallen in some places during recent days. Even less can we lose confidence or be in a state of inertia in the face of hardships. We are now less than a month away from the summer harvest, and party and government leaders at all levels must recognize fully their serious responsibilities in fighting disaster to win a bumper harvest. They must recognize fully the major economic and political significance of further efforts to launch a struggle to resist drought and disaster to win a summer harvest and a bumper harvest for the year as a whole. They must continue to work ceaselessly and unremittingly, and carry forward a revolutionary spirit of not fearing weariness and continuing to fight, to fight resolutely, this battle of "one resistance and two "guarantees." Whether or not this year's wheat harvest will be slightly larger will be determined primarily by the per thousand weight of grains. If the per thousand weight of grains increases by 2 or 3 grams, the harvest for the province as a whole will increase by from several hundred million to more than 1 billion jin. Consequently, it is important conscientiously to intensify care during the late stage, doing a good job of watering, controlling aphids, spraying phosphate and guarding against hot dry winds. Right now much remains to be done in spring planting, and very soon the time for summer planting will be at hand. The time for planting is extremely limited. All jurisdictions must seize the favorable conditions that the rains of recent days provide to sow replacements for cotton plants, to sow oil-bearing crops, and to give strict attention to spring planting of grain. Once all crops have been planted, prompt checking and placement of seedlings will be required. Where soil moisture is insufficient, watering to resist drought will have to be done promptly to assure full stands of sturdy seedlings. Right now the struggle against drought is extremely hectic. All jurisdictions must continue from transfering large numbers of cadres during the previous stage to the further transfering of large numbers of cadres to the countryside. It is particularly important that leaders at all levels go down to the grassroots to become involved in production and to mingle with the masses to assure a centralization of leadership, a concentration of energies, and a concentration of manpower, financial, and material resources for unflagging struggle against drought.

Practice in many areas has shown that the key to effective struggle against drought lies in the arousal of revolutionary spirit among leadership teams. Currently a substantial number of grassroots level leadership teams everywhere are lax and weak. Though the personnel in these teams are perfectly all right, they are unable to carry out their responsibilities, do not dare work courageously, and work at matters profitable to individuals but pay no attention to matters that are not profitable. Healthy trends find no encouragement, and evil influences are not curbed. Data demonstrates that grassroots cadres are frequently lax and weak as a result of leadership not being clearly defined, attitudes not being forthright, and no vigorous support being given by superior authorities when difficulties arise. Consequently solution to the problem of laxness and weakness in grassroots leadership teams must begin with out leaders. Leaders at all levels must arouse a revolutionary spirit, unswervingly carrying out the four basic principles, and implement the lines, programs and policies that have followed from the 30 Plenary Session of the 11th Party Central Committee. On matters of great right and great wrong, they must take a clear stand without fear of offending anyone. Comrades who uphold principles, conscientiously discharge their responsibilities, actively work, and work without let up, should be given commendations and support. Those cadres who abandon their posts and who lack spirit must be criticized and indoctrinated. One must dare to halt unhealthy tendencies and dare to punish violations of the law or contraventions of discipline. All jurisdictions should affirm accomplishments in previous periods in the struggle against drought, seek out shortcomings, comment the advanced, put the spur to the laggards, further arouse the enthusiasm of the broad masses of cadres and the people, be determined, eliminate countless difficulties, and win a complete victory in "one resistance and two guarantees."

After leaders at all levels have gone onto the frontline of resistance to drought, they must bond closely with the masses, perservere in investigation and study, and conscientiously resolve existing problems. They must use the method of "grasping matters at both ends to hold everything in between," on the one hand giving attention to advanced units, summarizing experiences, analyzing typical cases, and giving across-the-board guidance, while on the other hand devoting attention to units facing great difficultues and having numerous problems, prescribing remedies case by case, solving existing problems straightaway in some cases, and arousing the masses to struggle against drought. Where teams are lax and weak, cadres should be dispatched to stay and solve problems. Where responsibility systems are not complete, strenuous efforts should be made, in the course of the struggle against drought, to perfect them. Almost one-third of the province's production teams have not yet established responsibility systems for well and pump management. This is a major problem for which the masses urgently demand solution. All jurisdictions must direct a high degree of serious attention to this problem and diligently devote strict attention to solving it.

At the present time the jobs to be done in the struggle against drought are arduous, but advantageous conditions for our triumph over drought are also very numerous. These consist principally of the deep penetration into people's minds of the lines, programs, and policies of the Third Plenary Session, the unprecedently high surge of enthusiasm on the part of the broad masses of cadres and people for great efforts toward the four modernizations, plus experiences over several years in a row of fighting drought to win bumper harvests. So long as leaders at all levels inspire enthusiasm, unite the masses, actively work, and make concerted efforts, the disaster situation and losses can be reduced to the lowest minimum and an all around bumper harvest can be won in agriculture this year.

Cotton Sowing Efforts

Shijiazhuang HEBEI RIBAO in Chinese 14 May 82 p 1

[Article: "Rapidly Start an Upsurge in Checking on and Augmenting Cotton Seedlings"]

[Text] As a result of stubborn struggle against drought on the part of the broad masses of cadres and people in cotton-growing areas, a decisive victory has been won in the sowing of cotton throughout the province as a whole. Now, in addition to continue to wind up cotton sowing, it is necessary to make full use of favorable conditions following the rain to shift the focus rapidly to the checking of seedlings and adding seedlings where required for a full stand of cotton, and to continue to work ceaselessly and unremittingly to win victory in the battle for a full stand.

It must be realized that ever since the beginning of April there has been little rain and much wind plus continuing drought, and that some cottonfields have lost soil moisture and become parched. In some places, cotton sowing quality has been poor and sowing techniques not up to the norm. In cottonfields almost everywhere gaps among the seedlings or cracks in the ground around seedlings has taken place. This poses a very great threat to winning a bumper cotton harvest. It has been estimated that if 10 percent of seedlings in the province's cottonfields are lost, that would be the same as a 1 million mu reduction in the cottonfield area and would mean a 50 to 60 million dan decrease in ginned cotton. In the face of this situation, at all levels leaders positively cannot be paralyzed and negligent or view matters lightly. They are to indoctrinate the broad masses of cadres and people to carry forward a style of continuous combat and after completing cotton sowing go on to unremitting efforts without shirking to start an upsurge at once of checking and filling in gaps among seedlings to assure full stands.

It must be pointed out that because of force of habit in considering a more or less complete stand of crops as a full stand, some places do not fully understand the matter of a lack of a full stand and do not act quickly to correct it. Some other places suppose that sowing quality has been good and are blindly optimistic. Still other places have a sense of hopelessness when they see there are numerous missing seedlings and that the drought is so severe. Leaders at all levels must do thoroughgoing and meticulous political work, explain advantages and disadvantages clearly, and buttress conscientiousness about checking on and replacing missing seedlings for a full stand.

All levels of leaders must take in hand the task of assuring a full stand of seedlings in the same way that they took in hand the fight against drought to do planting. They msut brace themselves to combat drought to assure a full stand of seedlings, and adapt general methods to local situations to carry out technical measures to assure full stands. In cottonfields where seedlings have difficulty in emerging because of loss of soil moisture, prompt action should be taken to dig ditches to irrigate and replenish soil moisture. In drought stricken cottonfields suffering serious lack of soil moisture requiring that water be carried and seeds be dibbled, soil moisture should be supplemented by sinking wells for irrigation water. Where 50 percent or more of seedlings are missing in a cottonfield, the cotton should be destroyed at once and replanting done. The fields should not be planted to other crops. For cottonfields missing less than 50 percent of seedlings, forced budding of seeds for additional dibbling, or supplemental transplanting of shoots should be done to assure a full stand of seedlings. Wherever a plant is missing, one should be added; and wherever one has been added, it should be kept alive. In addition, cotton aphids should be eliminated and pests controlled at once.

Rush To Plant

Shijiazhuang HEBEI RIBAO 13 May 82 p 1

[Text] Following rainfall, all levesl of leaders in Chengde Prefecture have organized the masses of commune members for a concerted use of time and forces to rush to plant while the soil is moist. As of 7 May, the prefecture had sown more than 4.3 million mu of open field crops, dibbling or drilling seeds on more than 480,000 mu for a more than 90 percent fulfillment of sowing plans. During late April and early May, Chengde Prefecture had three light to medium rainfalls that provided soil moisture over a fairly wide area. The chengde Prefecture CCP Committee and government administrative offices thereupon issued urgent telegraphic notices to all municipalities and countries requiring all levels of leaders to take advantage of this favorable opportunity and give tailor-made guidance for the rush planting of the fields with soil moisture, planting main crops with all possible speed. They were to put water down and dibble seeds into the ground on fields lacking or having insufficient soil moisture. The prefecture fielded more than 3,800 cadres to go down to the frontlines to help improve work and gain frsthand experience in communes and brigades, to organize spring planting, and to hasten the pace of planting. Right now Chengde Prefecture is both winding up spring planting, inspecting and adding seedlings to blank spots, and is getting ready to transplant more than 100,000 mu of paddyfield crops.

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HEBEI

TESTING OF NEW FARM CROPS, TECHNIQUES OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 11 Apr 82 p 4

[Article: "What Research Is Being Done on Agricultural Science and Technology in the Province This Year?"]

[Text] Recently the Provincial Science Commission convened a symposium on agricultural developmental research, which studied and made arrangements for this year's developmental research plans for new agricultural techniques and new results. This year Hebei Province's agricultural developmental research is characterized in the following ways: It is more closely centered around key problems in agricultural production and development. While positively not slackening grain production, it actively develops economic diversification, intensifies scientific and technical work in intermediate and low yield areas, and promotes balanced increases in output.

The number of counties and municipalities engaged in research projects for agricultural development this year has risen from last year's 22 to 47, and research projects on economic diversification have also increased. Demonstrations and experiments on new agricultural techniques and new results have increased from last year's 45 to 60, and the area of the experimental zone has expanded from somewhat more than 610,000 mu to 1.45 million mu. The major techniques and results explored and summarized this year are: Demonstration experiments using fine wheat varieties Beimai No 9, No 6, and Changle No 5, Cangsan No 1 corn, and "shallow fertilization of wheat with a mixture of nitrogenous and phosphate fertilizer"; verification and exploration of fine variety summer and autumn crops, and of bumper harvest transplanting techniques suited to the Heilonggang area and to planting in other dry, infertile, and alkaline soils; demonstration experiments of new strains of fine wheat varieties Zhenmai Nos 1 and 2, "74531," and Jimai No 7, new corn combination Hanza No 1 (Handan No 2), as well as "wheat leaf-age indicator promotion and control methods," and scientific use of water and fertilizer; verification and exploration of summer and autumn fine varieties suitable for growing in intermediate and high yield areas, and overall farming techniques for "high yields, consistent yields, and low cost."

2. Demonstration experiments on new cotton varieties Jimai No 2, Hanmiao No 5, and 7315, with exploration and verification of cotton varieties native to the province that are superior to Lumian No 1 in bumper harvests, resistances, and

fiber quality. In order to make full use of light and heat resources in central and southern Hebei and to increase output value, demonstration experiments were conducted using beer barley or early ripening wheat as a first crop and new varieties of early ripening cotton variety "Zhongmiansuo No 10" as a second crop; exploration and summarization of the continuous cropping of double high yield farming techniques. 3. By way of turning to advantage millet's tolerance of drought, demonstration experiments were conducted in the water-deficient areas of Zhangjiakou, Chengde, and Cangzhou on new strains of fine variety millet such as Jigu No 3, and summarization done of high yield techniques for growing it on dry, infertile, or alkaline soil. 4. In order to make full use of most of Hebei Province's low yield area resources and increase economic benefits, demonstration experiments were conducted using new strains of fine varieties of oil-bearing crops such as peanuts, flax, and sunflowers, on balanced increases in yields from fruit trees, on development of small livestock, and other economic diversification. 5. By way of rendering service to cities and industrial and mining areas, emphasis was placed on demonstration experiments with new varieties of watermelons in suburban areas and on farming techniques using small rounded plastic ground mulch enclosures; and on demonstration experiments on the use of fine hybrid vegetables.

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ASSISTANCE GIVEN TO LEADERSHIP IN PRODUCTION TEAMS, BRIGADES

Shijiazhuang HEBEI RIBAO in Chinese 9 Apr 82 p 2

[Article by Dong Jiqin [5516 4949 0530]: "Ninety-Seven Percent of Handan Prefecture Wheatfields Have Been Watered. Assistance Given Grassroots To Intensify Building of Leadership Teams To Promote 'One Resistance and Double Contracts'"]

[Text] In view of problems of weakness and laxity existing in leadership groups in some production brigades and production teams, and the state of paryalysis or semiparalysis existing in a small number of "brigade and production-team teams" which adversely affects the launching of a movement of "one resistance and double contracts," Handan Prefecture's CCP Committee, and CCP committees in all counties in the prefecture have transferred 1,287 cadres to form work teams assigned to individual communes and brigades to help intensify the grassroots' building of leadership teams. In their reorganization of teams they have concentrated on the adaptation of general methods to local situations and the giving of tailored guidance on the basis of prevailing realities. In "fragmented teams" where, for lack of understanding about responsibility systems people first lock horns and then do as they please, they first intensified ideological education so that the people would define the limits of "double contracting" [the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion], and of dividing fields for individual working, increase their understanding, and take the initiative in assuming responsibility. In the case of "gloomy teams" that have not adjusted to the new situation, that cannot use old methods and will not use new methods, methods were taught and measures prescribed to improve their leadership skills. For "soft teams" in which individual resistance and lying down on the job was encountered in the carrying out of state policies and in maintaining the collective economy, clear support was given to make them straighten their backbones and work courageously. For "losing teams" that had made no provisions for cadre allowances, prompt and equitable solution was found and fair remuneration was worked out for this year. For "corrupt teams" that had disobeyed laws and violated discipline by occupying collective property the views of the masses were solicited, and resolute changes made in persons selected.

After work had been done for a period of time, 3,529 paralyzed and semiparalyzed brigade and production-team teams were reorganized. This was 88 percent of the total number. In 77 percent of the production teams in the prefecture, systems of personal cadre responsibility were established and perfected. This vigorously promoted the campaign to combat drought in spring farming. As of the end of March, the prefecture had activated 30,000 pump wells and watered 3.6 million mu of wheatfields, which was 97 percent of the wheatfield area. Yongnian, Linzhang, Cheng'an, Daming, and Handan Counties have fulfilled their wheat watering tasks and are now increasing the watering of dryland wheat. More than 1.1 million mu of fields in the prefecture were not plowed following last year's harvest, almost double the amount for the same period last year.

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BENEFITS FROM CORN, SOYBEAN INTERCROPPING EMPHASIZED

Shijiazhuang HEBEI RIBAO in Chinese 9 Apr 82 p 2

[Article by Wang Fengwen [3769 7685 2429], [illegible] Yongqing [? 3057 1987], and Li [illegible] [2621 ?]: "Intercropping of Grain and Beans Is a Way To Develop Soybean Production"]

[Text] Soybeans are an agricultural crop of high economic value. They contain abundant protein, fat, many minerals and vitamins. They are a grain, an oil-bearing crop, a livestock feed crop, and their root nodules play an additional beneficial role in fixing nitrogen; thus, they are a very good crop for nurturing the soil. How can the province's soybean production be revived and developed as quickly as possible without impairing total grain production? A current look at numerous representative experiences shows that promotion of the intercropping of grain and beans, particularly the intercropping of corn and soybeans, is a way of developing the province's soybean production.

The intercropping of grain and beans lends itself to actual conditions prevailing in the province. Ours is a province with large population relative to available land in which grain supply is a large problem. Cultivated land in the province is currently less than 100 million mu, only 70 million mu of which is a grain growing area, or an average of slightly more than 1 mu per capita. In some places the amount is less than 1 mu per capita. Under these circumstances, except for a small number of places in which the amount of land is great relative to population, it is impossible to devote substantial acreage to the growing of soybeans alone. However, the province produces relatively small amounts of soybeans, and supplies are scarce, so development of soybean production is genuinely needed. Under these circumstances, the intercropping of grain and soybeans is a rather good way of truly resolving this contradiction.

Economic benefits derived from the intercropping of grain and soybeans are fairly outstanding. For example, in Cang County where the soil is saline and of low fertility, intercropping of corn and soybeans on 145,000 mu last year increased corn yields by an average 12.7 percent as compared with the cropping of corn alone. In Qing County, intercropping of corn and soybeans on 16,000 mu produced increases in yields averaging between 5.3 and 12.8 percent. In Luanping County, intercropping of corn and soybeans on 13,000 mu produced combined yields of 1,063 jin per mu. Figured on the basis of procurement prices paid for second grade, this meant an output value of 155.99 yuan per mu (including the value of byproducts), an increase of 24.15 yuan over the value of corn grown as a single crop. In addition, it was possible to regulate cropping to increase soil fertility and lower costs. Root nodule bacteria on soybeans are numerous, and they are able to fix large quantities of free nitrogen from the air. Soil on which soybeans have been grown not only produces increased yields in the same season, but also produces increases the following season for a total increased output for the year.

Intercropping of grain and soybeans makes for convenience in field care. When corn and soybeans are intercropped, crops with tall stalks and short stems naturally result in a matching of a member of the grass family with a member of the pulse family. The distance between corn and soybean rows is fairly wide, which makes for not only good ventilation and light penetration, a high energy utilization rate, and ease in making use of rows at the edges of fields for corn, but also makes for comparative ease in watering, fertilizing, cultivating, and weeding the fields, as well as for prevention and control of disease and insect pests.

When promoting intercropping, attention should be given to the solution of the following technical measures.

1. General methods should be adapted to local situations to set equitable proportions of corn and soybean rows. Practical experience with production shows that corn should predominate in corn growing areas, the proportion of corn rows to soybean rows being generally about 2:2, 3:3, 4:3, or 4:4. Such a method can assure high corn yields, and more soybeans can be harvested too. In some low yield areas, the proportion of soybeans may be increased somewhat, the ratio of corn to soybeans being 2:3, 2:4, or 4:6, so as to be able to harvest somewhat more soybeans.

2. Corn and soybean planting norms and sensibly close planting should be assured. In intercropping where corn predominates, the number of cornstalks should be no less than the number of cornstalks per mu when corn is grown as a single crop, and between 6,000 and 8,000 soybean plans is the right number In intercropping in which soybeans predominate, the requisite number of soybean plants per mu should be maintained to assure soybean output.

3. Suitable varieties should be selected. Corn varieties selected should have medium tall stalks, narrow leaves, permit good light penetration, and have great potential for increased yields. Soybean varieties selected should be early maturing, tolerant of shade, have compact plants, good bumper yield properties, and strong resistance to diseases and insect pests.

4. Strengthening of scientific management. If results from the intercropping of corn and soybeans are to be increased and large output assured, prompt attention must be given the prevention and control of insect pests. Special attention must be given to high yield areas. Experience in production has demonstrated that when intercropping is done, where conditions for soybean growth are poor and resistance to disease and insect pests of individual plants is weak, the natural regulation capacity of plant colonies will also be poor and disease and insect pest infestations fairly serious, impairment to output

being apparent. Consequently, attention must be given to treatment of seeds before they are sown to prevent underground insect damage and early spring insect damage. Aphids, dodder, insects that eat the hearts out of crops, and such diseases and pests must be diligently prevented and controlled so as to protect plants, preserve output, and increase benefits derived from intercropping.

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DIVISION OF FARMLAND FOR CONSUMPTION, COMMODITY PRODUCTION PROMOTED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 1,
5 Jan 82 p 22

[Article by Sun Jingqi [1327 2529 4388], Shen Yuzhou [3088 3768 3166] and Bai Zhongyue [4101 0022 2588]: "Others Contract Farming of Grain Ration Fields While Farmers Farm Commodity Fields"]

[Text] In the process of strengthening and improving agricultural production systems of responsibility, Qing County in Hebei Province has made repeated experiments and comparisons for active promotion of a combination of people other than farmers contracting the farming of "grain ration fields," and farmers contracting the farming of "commodity fields" in a "two-field system." Now, more than one-third of all production teams are practicing this system.

Principal Ingredients and Methods of the "Two-Field System"

The masses call "grain ration fields," "self-sufficiency fields." On the basis of the natural population's annual average per capita grain ration needs, fields are designated on the basis of their yields, each person receiving from 0.5 to 1 mu for which they are assigned total responsibility, farming to be done by households that take care of their own grain ration needs, with no change for a long period of time. So long as they assure self-sufficiency in grain and oil, commune members may adapt general methods to local situations to farm as they please. On the basis of prevailing conditions, production teams provide maximum support in plowing, irrigation, fine variety seeds, chemical fertilizer, pesticides and processing of agricultural sideline products. Except for payment of agricultural taxes and a small amount of animal fodder, all the produce from "grain ration fields" reverts to households. As population increases or decreases, no change is made in the number of mu of land assigned. At a certain time in response to mass demands, necessary readjustments can be made. Households lacking workforces that can contract are sold a basic grain ration at distribution prices by production teams. Dependents of martyrs and military men who have no workforce, and "households enjoying the five guarantees" [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses] are not assigned "grain ration fields," but are taken care of out of public welfare funds.

"Commodity fields" are also known as "responsibility fields" by the masses, and consist of the major part of the land, grain ration fields excluded, which is contracted to the workforce that is expert at farming and specialized in agriculture whose forces are concentrated for development of commodity grain, edible oil, melons, fruits and vegetables. Depending on production conditions and management levels in different production teams, the commodity field contracting methods may be "several fixed and a single reward," contracting production or contracting work, or uniform distributions from set quotas everything in excess going to the producers. Alternatively, large-scale assignment of sole responsibility may be the method used, or specialized contracting with calculation of compensation linked to output may be used. No matter the method adopted, unified planning and leadership by production teams is to be emphasized, with attention given to making the most of collective strength. Commune members not suited for contracting in agriculture or those who possess other special skills do not have to contract, or can contract fewer "commodity fields." They will be assigned by the production teams to other collectively organized industrial sideline occupations, or to other specialized teams, specialized households, or specialized work. All economic income received by those contracting in other trades has to be divided up and accounted for in the practice of large-scale assignment of responsibilities or proportional division. In some cases workpoints will be recorded for sharing in uniform distributions. Those without economic income such as electricians, schoolteachers in civilian schools, or barefoot doctors, should practice fixed rewards and penalties for fixed duties, allowances being provided them from the earnings of each economic specialty so that they have the same level of earnings as those doing the same kind of work or in the same workforce category.

Practice Has Shown that Despite Its Present Lack of Perfection, the "Two-Fields System" Has Evidenced Distinct Superiorities. First, it is advantageous both for grain production and for economic diversification. During the past 3 years, the province's gross output of grain has averaged 209 million jin, 20 million jin of which was annually contributed to the state, and 30 million jin of which was retained by collectives as seeds or for livestock feed, commune members' grain rations amounting to 150 million jin or more than 70 percent of the total. After institution of the "two-field system," whereby grain rations became the responsibility of commune members themselves rather than of the collective as in the past, and the former wide plantings with thin harvests changed to intensive farming, the collective was then free to concentrate manpower, material and financial resources on development of economic diversification. Second, it was advantageous for agricultural production and for development of industrial sideline occupations. The fixing of output quotas on a household basis, or a large number of people being assigned responsibilities on a large scale has shackled people to the land and can hurt industrial sideline occupation production. In 1980, a year of major drought, grain output of many communes and brigades exceeded all-time highs, but earnings dropped. The "two-fields system" can solve this problem rather well. Since commodity fields are contracted for only by those engaged in agriculture, increases in agricultural output can be assured. On the other hand, since industrial sideline occupation personnel contract for grain ration fields and do not contract for or contract for only a little commodity fields, they are not held back by the commodity fields and are able to concentrate their energies on development of industrial sideline production. Third, the system helps the collective grow strong and helps the individual economy develop. A look at Qing County, which put the "two-field system" into practice, shows that grain ration fields plus private plots amount to about 30 percent of total cultivated land, which allows ample scope for the exercise of individual enthusiasm, and makes self-sufficiency or an excess entirely possible. The collective commodity fields, which account for about 70 percent of cultivated land, showed, on the one hand, an increase in commodity production and an increase in collective earnings because of the centralization of forces. On the other hand, with implementation of a responsibility system linked to output, the production efficiency rate steadily increased and costs steadily dropped, while at the same time a large amount of surplus labor could run workshops, do processing, vigorously develop industrial sideline production to change the situation of having nothing to sell but raw materials, thereby further developing and strengthening the collective economy. Fourth it helped the specialized division of labor, each person giving according to ability, gradually moving toward the specialization and socialization of production. In places that have instituted the "two-field system," though forms of responsibility systems linked to output are of many different kinds for commodity fields, they share a common point, namely the emphasis on workforce contracting on the basis of abilities. Those good at farming contract for land, and those good at other specialized trades to specialized contracting in farming, forestry, animal husbandry, sideline occupations, fisheries, or other service trades. Once the problem of grain rations has been solved, matters may be arranged on the basis of specialized division of labor. Consequently, practice of the "two-field system" helps unified administration by production teams and militates against a tendency toward "smallness but completeness in production on dispersed land. It helps the transition to and development of specialized and socialized production.

Institution of the "Two-Fields System" Requires Attention to Solution of the Following Several Problems. 1. The leaders' main energies must be focused on the commodity fields. Practice has shown that the "grain ration fields" can be easily started and commune members are also able to farm them well. The key to how well the "two-field system" will work lies in the "commodity fields." If there is laxness in the organization and leadership of the "commodity fields," possibly commune members will be concerned only about the "grain ration fields." The key to a good job in the "commodity fields" lies in implementation of various responsibility systems linked to output so that every member of the workforce involved in agricultural production will genuinely directly link how well the "commodity fields" are farmed to his own personal welfare. 2. The amount of "grain ration fields" has to be just right. In distributing "grain ration fields," the production from each field has to be estimated, the stardard used being ability to satisfy fields" take too much of the land, the collective economy will be hurt and those who have to work a lot will complain. If too little, it will be impossible to satisfy grain ration needs and those who do not have enough to do will complain. Any artificially created numerous and overeleborate intermediate links will also not find ready acceptance by the broad masses of people and cadres. In 1980, because "grain ration fields" were too few, individual production teams further apportioned grain from the commodity grain fields. As a result, both cadres and masses disliked the bother and

gave up the "two-field system." This is a lesson that should be remembered.
3. Once there are "grain ration fields," there is no further expansion of private plots. The situation in Qing County showed that earnings from "grain ration fields" were greater than from expansion of the number of private plots, and they were better able to satisfy the needs of the masses; consequently, the broad masses of cadres and people said that so long as "grain ration fields" endure for a long time, they would prefer "grain ration fields."

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PERFORMANCE, PROSPECTS FOR SOYBEAN PRODUCTION PROVIDED

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 2, 1982 pp 20-22

[Article by Yang Rongqiu [2799 2837 4428], Economic Research Institute, Heilongjiang Provincial State Farm Administration: "Taking Further Advantage of Heilongjiang Reclamation Area Soybean Production"]

[Text] China is called the motherland of soybeans, and Heilongjiang Province is renowned as the land of soybeans. After more than 30 years of development and construction, the Heilongjiang reclamation area has become a major national commodity base. The soybeans it produces are crucial to both Heilongjiang and to the country as a whole. Taking further advantage of Heilongjiang Province's reclamation area soybean production will not only advance all around development of reclamation area agriculture and increase reclamation area economic benefits, but will also have major significance for development of the national economy.

In 1950, the Heilongjiang Province state farm system's soybean output totaled 29 million jin. In 1980, it reached 1.57 billion jin, accounting for about 35 percent of the province's total soybean output for the year, and amounting to 11 percent of national soybean output for the year. During the 30 year period, the reclamation area's annual soybean output increased more than 50-fold for an accumulated output of 17.5 billion jin of soybeans, providing the country almost 8 billion jin of soybeans. In terms of output increase, development was rapid and the contribution to the country was by no means small.

The increase in soybean output is entirely attributable to the two factors of increase in growing area and yields per unit of area. Between 1950 and 1980, the area sown to soybeans in the reclamation area rose from 250,000 mu to 9.4 million mu, a 36-fold increase. Consequently, it may be supposed that the Heilongjiang reclamation area's 30 year increase in soybean output was primarily the result of a combination of expansion of cultivated area and corresponding expansion of the soybean growing area. The proportion of the reclamation area's total cultivated area sown to soybeans stood at 34 percent in the 1950's, and 32.4 percent in the 1960's, which means it was virtually steady.

Looked at in terms of output per unit of area, the reclamation area's soybean yields per unit of area averaged 116 jin in 1950 and 168 jin in 1980, a 45 percent increase in a period of 30 years. During the 1950's, the reclamation area's grain yields averaged 149 jin per mu, and in the first year of the 1980's, i.e. in 1980, they averaged 280 jin, an increase of 85 percent, much faster than the speed of increase of soybean yields per unit of area.

Soybean output as a ratio of total grain and soybean output has declined year by year. In the 1950's, it was 27.9 percent; in the 1960's, it was 26.1 percent; and in the 1970's it fell further to 23.6 percent. In comparison with the reclamation area's wheat and corn crops as well as in terms of the rate of increase per unit of area of soybeans, the level of development of soybean production has been slow.

2. Reasons For Slow Development of Reclamation Area Soybean Production

In the 30 years in which the Heilongjiang reclamation area has been in existence, why is it that the level of soybean production has not seen the same balanced development as grain production? The principal reason lies in the guiding mentality of agricultural production that considered soybeans to be a kind of grain, and which stressed "taking grain as the key link," and one-sidedly sought high standards of average output per unit of area. However, soybean yields per unit of area can scarcely attain the level of grain crops in general, so people regarded it as a "low yield crop." In an effort to "achieve the targets" [set in the National Agricultural Development Program] and to "exceed the target set for the region north of the Yellow River," some production units had no choice but to give priority to the use of material and technical forces on grain crops. They "emphasized grain and slighted soybeans," and they "emphasized wheat and slighted soybeans." In planning crops, priority went to planning of grain crops, soybeans being treated as an "afterthought." When it came to fertilization, soybeans got the "leavings." In cultivation and care too, soybeans "had to make way." Virtually everywhere soybeans were continuously cropped or yingcha [6601 9173] on the same land causing depletion of nutrients, a steady accumulation of toxic substances, and increasingly severe associated diseases, insect pests, and weeds, which hurt the formation of soybean root nodules leading to reduced yields. According to a 1980 survey, the area repeatedly cropped or yingcha to soybeans in the reclamation area amounted to more than 1.8 million mu or 19.6 percent of the total area sown to soybeans. The continuously cropped or yingcha area in individual units amounted to more than 40 percent of the total area sown.

In addition, some people felt soybeans had a low economic value and were not worthwhile growing. The price scissors between industrial and agricultural products in China is fairly great, and as grain crops go, the value of soybeans tends to be lower than that of cereal crops. According to statistics from a production team on Youyi Farm, in the 2 years since readjustment of the prices of agricultural products, the production teams' profits from growing wheat have been much higher than from soybeans. Price policies like this that favor wheat and discriminate against soybeans are another important reason why production of wheat has been emphasized and soybeans slighted, and why soybean production has developed slowly.

3. The Reclamation Area Possesses Tremendous Advantages For Development of Soybean Production

The Heilongjiang reclamation area's farms are distributed everywhere throughout the province. Those located in the high latitude zone between 45 and 50 degrees north latitude have a frost-free period of from 100 to 130 days, which is an arctic or sub-arctic climate. During July, temperatures reach a maximum of 30° to 35°C, and at night they range from 18° to 20°C. Rainfall is fairly adequate. As a result, daytime photosynthesis is vigorous and creates large quantities of nutrients. Here the soil is fertile and heat resources abundant. During the April to September soybean growing season, each square meter has 70.8 kilocalories of heat, and during the same period daily sunshine amounts to between 1,300 and 1,400 hours, higher than in China's other soybean producing areas of Shandong, Hebei, and Henan.

As a result of more than 30 years development and construction, abundant experiences have been accumulated about the tremendous advantages Heilongjiang's reclamation area offers for development of soybean production. This area possesses material and technical advantages that surpass those of other areas, including a fairly skilled agro-technical and farm machinery corps. The reclamation area's state farms are concentrated largely on the Sanjiang Plain and the Songnen Plain where the land area is extensive, the cultivated land is in continuous tracts, the lay of the land flat, and where a certain foundation of capital construction for agricultural use already exists. It is an ideal area for mechanized farming such as is rare elsewhere in the country. As a result, soybean production in the Heilongjiang reclamation area is extremely concentrated; quality is good; fat content is fairly high; color and luster are good; individual beans are even in size, and they are plump. They enjoy a high reputation not only within China, but are also highly competitive in international markets.

4. Taking Further Advantage of Heilongjiang Reclamation Area's Soybean Production

How to more fully make use of Heilongjiang reclamation area's advantages for soybean production requires that a good job be done in the following several respects.

First, appropriate readjustments have to be made in economic policies. Grain and soybeans should not be lumped together, but rather soybeans should be considered in a separate category. In terms of the overall development of agriculture, there should be a "big grain" concept, but just as peanuts, vegetables, sugar crops, and fruits are not included among grain crops, soybeans should likewise be separated out and returned to the economic crop category in which they formerly were. They should have their own requisition procurement quotas, and higher prices should be paid for production in excess of procurement quotas so that development of soybean production will rest on a necessary value foundation. Further study must be done on soybean procurement prices. In 1980, the price paid throughout reclamation areas for wheat and soybean sales to the state averaged 0.18 and 0.23 yuan per jin, which did not truly reflect the value of the soybeans. In international markets, the price ratio between wheat and soybeans mostly held at around 1:2, demonstrating that the position of soybeans in international markets also objectively reflected supply and demand relationships and their utility per se. This is something that merits our consideration. In short, there is need for readjustment of economic policies on soybeans so that economic benefits derived from the growing of soybeans will be no lower than for the growing of wheat or other cereal crops in order to stimulate enthusiasm on the part of production units for development of soybean production.

Second, Make Increases in Yields Per Unit of Area a Major Means For Developing Soybean Production

Within Heilongjiang's reclamation area, natural conditions differ scarcely at all from one farm to another, yet output shows great disparity. In 1980, soybean yields for the reclamation area averaged 168 jin per mu, while in 2 of 9 farm management bureaus, yields averaged only slightly more than 130 jin per mu, and for 10 farms with an area of almost 300,000 mu, soybean yields were less than 100 jin. Meanwhile, in the same year on an area of almost 100,000 mu at the Shanhe Farm located in the northwestern part of the reclamation area at 49°15' north latitude, soybean yields averaged 217 jin per mu, and on 22,500 mu, yields averaged more than 300 jin per mu. At the Tieli Farm in the southern foothills of Little Xing'an Range, yields from 57,000 mu of soybeans averaged 254 jin per mu. Statistical data also show that for the 4 years, 1965, 1966, 1975, and 1976, the Bawusan Farm annually planted more than 100,000 mu of soybeans from which it harvested yields averaging more than 260 jin per mu. From 1.3 million mu of soybeans planted in 1978 by the Mudanjiang Management Bureau, yields averaged 250 jin per mu. This shows that potential is still very great for increases in soybean yields per unit of area in the reclamation area. Therefore, increasing yields per unit of area should be the current main direction of attack in soybean production. Were soybean yields per unit of area to be increased to 200 jin during the next 2 or 3 years throughout the reclamation area, this would be an increase in output of more than 300 million jin.

Third is adoption of diverse measures to increase the overall soybean utilization rate. First, it is necessary to improve soybean processing technology. Soybeans are valuable for many different uses, yet we follow substantially traditional processing methods that produce a very low utilization rate. For example, most of the soybean oil used by workers and families throughout the reclamation area comes from processing done right on the farms within the reclamation area, but technology still consists of old style crushing methods that have an oil production rate of only 10 to 12 percent and, in some places, as low as 8 percent. Today, in many places inside and outside China, chemical solvents that have a recovery rate of more than 16 percent are used to recover soybean oil. If specialists were organized to develop and spread this technique, just within the reclamation area itself, requirements for soybeans could be reduced by 80 million jin. The pulp remaining after recovery of oil contains extremely abundant protein, which was formerly always used to make livestock feed and fertilizer in a very uneconomical way of doing things. Were already developed new technology to be used to make high quality foodstuffs such as fat-free bean flour, concentrated soybean protein, and artificial meat, milk, egg products, and water-free beancurd, as well as other bean manufactures to augment China's shortage of animal proteins, the products would not only have higher nutrition than animal protein, particularly nutritional value for health care, but would also increase economic benefits from soybean production.

The stalks, leaves, and pods of soybeans have always been regarded as a fuel to be burned by the people. However, soybean plant stalks contain more nutrients than any cereal grain. Measurements show that dried bean stalks contain about 2 percent total nitrogen, about 11 percent crude protein, about 9 percent other nitrogenous material, about 4 percent fat, as well as carbohydrates and various minerals. Were it possible to use a portion of the bean stalks plus some other raw materials to develop a livestock feed industry to manufacture full value feeds in order to promote development of a reclamation area livestock industry, the economic value would be very sizable.

Within the reclamation area, it is also necessary to intensify care of soybeans to do everything possible to increase the commodity rate for soybeans. In 1980, the Heilongjiang reclamation area produced 1.57 billion jin of soybeans, selling 880 million jin as commodity soybeans to the state for a commodity rate of 56 percent. Soybeans consumed within the area as seeds for livestock feed amounted to about 700 million jin. In fact, a certain amount of reduction in the "three retentions" for soybeans within the area is entirely possible. For example, vigorous extension of precision planting could bring about a drop in quantity of soybean seeds sown. By increasing the overall utilization rate of soybeans, without any drop in consumption as food for staff and workers or for livestock, consumption of soybeans could be reduced. Full use could be made of broken beans and small beans to reduce loss and waste, etc. If the "three retentions" of soybeans were reduced throughout the reclamation area by 10 percent, that would mean 70 million jin could be sent to markets, and from this source alone the reclamation area could increase earnings by from 20 to 30 million yuan, which would be very beneficial for the country, for enterprises, and for staff and workers.

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BRIEFS

SUGAR PRODUCTION--In the 1981-1982 sugar producing period ending 15 May, Heilongjiang Province produced 365,000 tons of sugar, an increase of 49,000 tons over the previous sugar producing period. Profits from sugar production were 10 million yuan. The previous sugar producing period had losses of 4 million yuan. [SK310858 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 30 May 82 SK]

CSO: 4007/429

BRIEFS

SUMMER HARVEST CONFERENCE--The Hubei provincial conference on the summer harvest concluded on 28 May. The conference demanded that in the work of the summer harvest and preliminary distribution, all places lay stress on the examination and fulfillment of economic contracts. This year, rural areas in the province have universally implemented the agricultural production responsibility system and 91.8 percent of production teams throughout the province have signed economic contracts linking remuneration to output. As there are many forms of the responsibility system, there are many forms of the method of distribution. The contents of distribution and the method of work are greatly different from those in the past. Therefore, the key to doing well in preliminary distribution this year lies in examining and fulfilling the contracts. In accordance with the provisions in the contracts, we must settle accounts and put up notices of these accounts. We must seriously examine the situation of settling accounts, analyze the results in production, solve the existing problems and strengthen guidance in future production. Provincial CCP committee secretary Huang Zhizhen and vice governor Wang Hanzhang attended the conference and spoke. [HK010427 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 29 May 82 HK]

CSO: 4007/429

BRIEFS

DROUGHT REPORT--Since the beginning of May, drought has threatened the growth of seedlings in paddy rice fields in Shuangyang and Yongji counties in Jilin Province. Over 73,000 people and 2,800 vehicles are out every day to deliver water and replant seedlings of paddy rice fields in Shuangyang County. As of 23 May, this county had replanted some 150,000 mu of paddy rice fields. Some 30,000 mu of paddy rice fields are seriously hit by drought in Yongji County. [SK301114 Changchun Jilin Provincial Service in Mandarin 1100 GMT 28 May 82 SK]

CSO: 4007/429

RECOMMENDATIONS FOR MORE COMMODITIES FOR RURAL PEOPLE

SK260400 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 25 May 82

[Text] Since the third plenary session, the peasants have become prosperous. One of the important manifestations of this is the increase in their purchasing power. However, during the January-April period of 1982, varieties of commodities in rural supply and marketing cooperatives in the province decreased by several hundred compared with the previous situation. Many commodities were out of stock, and the peasants were dissatisfied. During this period, over 1,000 industrial and commercial goods valued at 1.6 to 1.7 billion yuan were stockpiled, affecting the circulation of funds and resulting in a decrease in state revenue. This situation must be changed. However, some cadres contend it is difficult to organize industrial goods for rural areas because our province lacks popular brand products and high-grade goods. This argument is untenable.

Through investigations, we have realized that in many rural supply and marketing cooperatives, commodities are in short supply, product varieties are inadequate and many daily necessities are out of stock. Some peasants said they even have difficulty buying quilts and quilt covers, not to mention washing machines. True, popular brand products and high-grade goods are welcomed by the peasants; however, this only accounts for a small proportion of commodities orientation.

Haicheng County commercial departments have opened up all channels and tried every means to deliver industrial goods to rural areas. Since the beginning of this year, the sales volume of commodities in this county has increased 20 percent over the corresponding 1981 period. The peasants are satisfied with this. This has increased the revenue of the state. Experience shows that solving the problems of deficient market supplies in rural areas and overstocking of commercial goods is not just a general acknowledgement of serving the peasants and the rural markets on the part of commercial departments. Efforts must be made to adopt all kinds of feasible methods to realize the peasants' needs, to investigate and study the rural market trends and to deliver industrial goods to the rural areas in a prompt and timely manner.

CSO: 4007/429

NEI MONGGOL

BRIEFS

SPRING FARMING--Bayan Nuir League of Nei Monggol Region has completed sowing main crops in accordance with the state plan. By mid-May, the league had sown 3.92 million mu of wheat, corn, Chinese sorghum and sugar beets. [SK271155 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 May 82 SK]

WEATHER FORECAST--According to the forecast by the Nei Monggol Regional Meteorological Observatory, from June to August the precipitation in most areas of the region will be less than usual. Hulun Buir League, Western Alxa League and northern Xilin Gol League will probably be stricken by a sustained drought. Various leagues and municipalities in the west and central parts of the region will have dry weather from June until late summer. After the beginning of August, signs of drought will be alleviated. Ulanqab and Bayannur leagues will probably be hit by flooding and waterlogging. From June to August, temperatures in most areas of the region will be similar to that of past years. [SK301104 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 27 May 82 SK]

CSO: 4007/429

FARM, LAND RECLAMATION CONFERENCE CONCLUDES

SK210540 Xining Qinghai Provincial Service in Mandarin 1100 GMT 20 May 82

[Text] According to our sources, the provincial farm and land reclamation work conference jointly sponsored by the provincial agriculture and forestry department and the provincial finance department concluded on 17 May in Xining after a 10-day session. The conference emphatically discussed specific methods for state farms and livestock farms on improving management, raising economic results and making a breakthrough in farm and land reclamation economy.

Attending the conference were responsible comrades of various farms and livestock farms on the provincial farm and land reclamation front and responsible comrades of various prefectures, municipalities and counties. Speaking at the conference were the provincial party and government leading comrades including Ga-bu-long, Xu Linfeng, Wang Fuxiang and (Liu Fengjia).

Farm and land reclamation departments throughout the province achieved a total of 17 million yuan of output value last year and provided a fairly great amount of grain, oil and sideline products for the state. Their losses also decreased somewhat. However, only one-third of them showed a profit. The task of converting deficits into profits is still very arduous.

As for the issue of making a breakthrough in developing our province's farm and land reclamation projects, Comrade (Liu Fengjia) said in his summing up speech: In developing the state farms and livestock farms, it is necessary to uphold the principle of developing diversified forms of economy, with stress on one of them and persist in making agriculture, industry and commerce a coordinated process to develop them in an all-round way. Facts have shown that farm and land reclamation enterprises will not be stable without agriculture and animal husbandry will not be prosperous without industry and will not be enlivened without commerce. Therefore, it is an effective method to make agriculture, industry and commerce a coordinated process in order to develop them comprehensively.

State farms and livestock farms throughout the province should encourage the whole people-run units, collectives and individuals to develop a diversified economy through concerted efforts and vigorously prepare the ground for changing farm and land reclamation enterprises to integrated complexes of agriculture, industry and commerce. It is also necessary to institute the subsistence system in monetary affairs to promote the work of converting deficits to profits. The subsistence system in monetary affairs should be aimed at independent accounting, assuming sole responsibility for profits or losses, retaining the surplus and making up the losses through its own efforts. The enterprises which have not instituted the subsistence system must institute it conscientiously. At the same time, the responsibility system in production should be improved and implemented so as to integrate the economic interest of workers and staff with the economic results of enterprises. Various farms and livestock farms should sum up and implement the above-mentioned systems and make great efforts to improve them.

CSO: 4007/429

BRIEFS

XINING SPRING AFFORESTATION--Qinghai Province has basically completed spring afforestation work. As of mid-May, over 1 million people throughout the province participated in tree-planting work. They afforested 90,000 mu of land in urban areas, planted 19.3 million trees around villages and houses and along canals and roads and grew 35,000 mu of saplings, fulfilling the annual plans by over 72 percent. In addition, Haibei, Hainan and Haixi prefectures, Huangnan Tibetan Autonomous Prefecture and Hualong Hui Autonomous County have overfulfilled the annual afforestation tasks. [SK301046 Xining Qinghai Provincial Service in Mandarin 2330 GMT 27 May 82 SK]

WATER QUALITY IMPROVED--In the past 3 years, Qinghai Province has built and reconstructed 106 projects to improve the quality of potable water in areas where people are plagued by fluorine poisoning and goiter. The incidents of such diseases have begun to decline. [SK271200 Xining Qinghai Provincial Service in Mandarin 2330 GMT 26 May 82 SK]

CSO: 4007/429

METHODS TO ACHIEVE SELF-SUFFICIENCY IN EDIBLE OIL OUTLINED

Xian SHAANXI RIBAO in Chinese 7 Mar 82 p 2

[Article by Fan Guoxin [5400 0948 2450], Provincial Agricultural Bureau: "Seize the Opportunity To Plant Oil-Bearing Crops Well and in Sufficient Amounts"]

[Text] During the past several years Shaanxi Province's development of oil-bearing crops has been rapid. Since last year, in particular, after the provincial CCP Committee and provincial government proposed an equitable readjustment of crop patterns with increased growing of oil-bearing crops as a measure for achieving self-sufficiency in edible oil in the province, production of oil-bearing crops has been further promoted, and oil-bearing crop yields per unit of area, total output, and quantities of oil purchased have all exceeded the all-time high records. In a single year the onus of importing oil from other provinces has been removed, and the province has become substantially self-sufficient in edible oil.

As a result of last fall's continuously overcast and rainy weather, however, completion of fall rape sowing tasks was somewhat faulty, and the area planted declined by more than 300,000 mu over the previous year. In addition, as a result of frosts and freezes, low temperature, and inadequate sunshine, growth of rape seedlings was slow, and the condition of seedlings this year is the worst it has been for the past several years. Despite the meticulous and solid care given rape before the onset of winter in 1981, because of the fairly great reduction in the area planted to rape, inevitably total output must be affected. Therefore, all jurisdictions should follow the principle of "spring sowing to make up for inadequate fall sowing; minor oil-bearing crops to make up for a reduction in rape; and oil must be grown if it is to be eaten." Simultaneous with good field care of rape during the spring season, every available means should be used to fulfill sowing plans for oil-bearing crops to assure self-sufficiency in edible oil for local regions. Minor oil-bearing crops are characterized by numerous kinds and strong adaptability. Examples are northern Shaanxi's dwarf jute, [1420 7802 1311] [as published] linseed, and spring rape, the peanuts, sesame, and perilla of central and southern Shaanxi, and the castor and sunflowers that lend themselves to growing in all parts of the province. Mountain regions, plains, and hill regions having the conditions can adapt general methods to local situations to make appropriate plantings. The masses may also be stirred to make full use of idle land, saline-alkaline wastelands, places in front of and behind their homes, and the 10 besides [odd bits of land in various places] for large scale growing of minor oil-bearing crops.

In order to change the low yields obtained from oil-bearing crops, farming techniques must make new breakthroughs. Jobs such as selection of fine varieties, planting at the right times, planting in the proper density, field care, careful leveling of the land, and increased fertilization must be done conscientiously. Minor oil-bearing crops cannot be treated like some incidental farm work, but care must be taken in planting and in harvesting for bumper output and bumper earnings to improve the level of Shaanxi Province's self-sufficiency in edible oil over the years.

9432
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MOBILIZATION CALL TO BEGIN SPRING PLANTING ISSUED

Xian SHAANXI RIBAO in Chinese 3 Mar 82 pp 1, 2

[Article by Yu Mingtao [0060 2494 3447]: "Urgently Mobilize to Bring About a Rapid Upsurge in Spring Production. Speech Made in a Provincial CCP Committee and Provincial Government Telephone Conference to Mobilize For Spring Production"]

[Text] Comrades:

On the basis of decisions made by the Provincial CCP Committee and the provincial government, this evening's telephone conference is principally for the purpose of preparing further action on the issue of spring production.

The overall situation in rural villages throughout the province is currently good. Right after the lunar new year, all counties and municipalities held three or four work conferences, one after another, in the spirit of both this year's Central Committee document No 1 and the Provincial CCP Committee's January work conference to take multiple action on rural work. Right now, consolidation and perfection of production responsibility systems, reorganization of grassroots leadership bodies, solving problems of unhealthy tendencies in the "three attracts, three changes, and one steady," attacks against criminal economic activities such as engaging in speculation and profiteering, smuggling and trafficking, and arranging for the livelihood of people in disaster areas is gradually being done in an orderly way. The spring production situation in rural villages throughout the province is also good. Enthusiasm of cadres and the masses is fairly high; many places have strengthened leadership of spring production, have trained and sent to rural villages large numbers of cadres to provide guidance and to solve problems face to face on the ground. Scientific and technical personnel and old peasants have been organized to inspect, plot by plot, the summer field growth situation and to provide tailored guidance in suggestions and measures. Some places have organized all levels of cadres for large scale planting of experimental fields and to explore experiences in increasing yields of all categories of crops. Many places have leveled fields and fertilized, have done spring hoeing, spring plowing, spring irrigation, afforestation, and various production activities. The most conspicuous problems existing at the present time are insufficient stress placed on this central matter of spring farming and production in very many places resulting from the substantial number of work tasks and the dispersal of leadership strength; a fragmented rural grassroots organization lacking in strength in may places, with some cadres washing their hands of involvement with present production; and the substantial shortage of means of production such as chemical fertilizer, plastic sheeting, farm machines and equipment, and wooden and bamboo implements needed in spring farming, transportation and supply of which has not been done on time. Meriting particular attention is that numerous leadership comrades seriously lack perception of these problems, do not take sufficiently vigorous measures to solve them, or even let things drift along on their own course without doing anything about them. These things are all extremely bad for doing a good job of spring production.

The central task of the moment at all levels of CCP committees and government in rural villages is to concentrate forces, strengthen leadership, and urgently mobilize, and through reliance on policies and science to bring about a rapid upsurge in spring production. To this end, and in the spirit of discussions by the Standing Committee of the Provincial CCP Committee, the following several problems are to be emphasized.

First Is Use of Every Possible Means to Win a Bumper Summer Harvest

Failure to win a bumper summer harvest will be a major matter affecting the situation as a whole. Summer grain has accounted for more than 40 percent of the Province's total grain output. A high commodity rate has extremely great ramifications in arranging for the people's livelihood in cities and countryside and for market supply. Since the founding of the People's Republic, 6 years have brought great bumper summer harvests, which meant not only a good agricultural life for the years concerned, but also a winning of the initiative for work in industry, culture and education, finance and trade. Conversely, if summer grain harvests are scanty, nobody's life is good. Therefore, we must keep our eyes on the situation as a whole, devoting attention first of all to this year's summer grain production, then going on take in hand grain production for the entire year in order to advance development of agriculture as a whole and the national economy of the province.

In order to win a bumper summer harvest, the Provincial CCP Committee and provincial government convened a provincewide agricultural work conference in November 1981 at which it made concrete arrangements, and at which all jurisdictions did a great amount of work, as a result of which definite achievements have been made. However, we must realize that as a result of the long periods of rainy, overcast weather last year, a substantial portion of the wheat was planted late and planted carelessly. November, the month in which wheat tillers vigorously, had somewhat low temperatures, and accumulated temperatures were more than 100 degrees less than in most years. Wheatfield's had generally between 40,000 and 50,000 fewer seedlings per mu than in most years, and one or two fewer tillers per plant. Moreover, the overwintering seedling situation has been generally poorer than during the previous year, slipping by about one grade. That is to say that this year's first grade seedlings would be classed as second grade seedlings in previous years. Since the lunar new year, the weather has continued abnormal. For more than 40 days there have been virtually no clear skies and sunshine has been inadequate, yet very little rain has fallen. Though rain or snow has fallen several times, it did not amount to anything substantial, and though basic soil moisture is good, moisture in the soil's surface horizon is inadequate. Right now some areas to the north of the Wei are experiencing drought, the drought area covering about 7 million mu. A survey done during the first 10 days of February in Puchen County shows soil water content to be only about 10 percent. The national meteorological forecast calls for continued low rain and snowfall in many areas this spring, and during May and June a "return to spring coldness" may occur, which would be damaging to wheat and rape growth and development. A problem exists in that some of our comrades have yet to give sufficient attention to these circumstances. Some are blindly optimistic supposing that since the soil moisture situation at the end of last year was good, since the wheat growing area is large, and since a lot of wheat is now growing, the problem of a bumper harvest is not a big one. Some passively complain about hardships, supposing that since the basic seedling situation is poor, better care will not make any difference. Some just drift along, supposing that with the implementation of production responsibility systems, it is the peasants themselves who should do the worrying and that there is no use in higher authority being much concerned, with the result that they slacken field care. We have to educate cadres and masses to realize the favorable conditions for production from the summer fields, and realize even more the disadvantageous factors so that the point on which they base themselves and the focus of their work will be the adoption of effective measures to triumph over hardships to promote an upward transformation in the summer fields. Only in this way can a bumper harvest be assured. Right now we are a little more than 3 months away from the summer harvest, and there is a very great amount of room for maneuver in field care. If only we concentrate our strength and do everything possible during these next 3 or 4 crucial months, the winning of a bumper harvest shows great hope. The next 3 or 4 months are a crucial period for the end of tillering, increase in number of spikes, and increase in number of grains of wheat. If work is done well during this stage, a turn around in the seedling situation can be brought about very quickly in a change from the passive to the active. Beginning now, all jurisdictions should concentrate their manpower and material resources to make a ferocious effort in field care.

First attention should go to balanced increases in output. Both wetlands and drylands should be given attention at the same time. In the wetlands a campaign for 10 percent increase in grain should be launched. If the province's wetlands yield an average 400 to 500 jin of wheat per mu, between 4 and 5 billion jin can be taken from 10 million mu. For drylands, the focus should be on the dryland plain area north of the Wei. This region accounts for about 30 percent of the province's total output of wheat. If this region has a bumper output, the province as a whole will have a bumper harvest. We must base ourselves on preventing and combating drought, take conscientious measures, cultivate the fields to preserve soil moisture, increase fertilization, prevent and control diseases and insect pests, and strive for wide area balanced increased in output.

Second is attention to crucial measures. The Provincial CCP Committee and provincial government have transmitted the minutes and specific measures of a symposium of wheat and rape specialists in Shaanxi Province on this issue, so there is no need for detailed discussion of methods. The emphasis should go on attention to fertilizer and water problems.

Fertilizer is food for crops. Success or failure in winning a bumper harvest this year will be determined to a very large extent by the quantity of fertilizer that is spread. To the maximum extent possible, existing chemical fertilizer should be used on places watered by rivers in an effort to get yields of between 30 and 40 jin per mu. In order to compensate for the current shortage of chemical fertilizer, supply and marketing units can draw down to the lowest possible extent the revolving chemical fertilizer maintained in storage for maximum use in spring production. In addition, general methods should be adapted to specific situations to launch mass campaigns of looking for fertilizer and accumulating fertilizer, and strenuous attention given to the raising of livestock to accumulate manure. Good management of human and livestock wastes should be done. As part of the patriotic sanitation campaign, garbage should be cleaned up, and city feces collected to be sent to the countryside to provide quick acting fertilizer for the wheatfields, and to make ready sufficient base fertilizer for spring sowing.

Water conservancy is the life blood of agriculture. Capital construction of farmland water conservancy should be closely related to spring production, with attention given to tapping the potential, fully equipping and finishing up water conservancy projects. A 3 million mu area in the province has not yet been fully equipped, so action should be taken on this area with all possible speed to make the most of irrigation benefits. The potential from fully equipping the Fengjiashan and the Donglei projects is very great. If conscientious attention is directed to these projects, an irrigated area of more than 200,000 mu can be added this year. The pace of spring irrigation should be particularly hastened. Only 2 million mu of the planned 10.3 million mu planned for spring irrigation in the province has so far been irrigated. All jurisdictions should clarify reasons for the slow pace of irrigation, and solve both problems in understanding and genuine problems of insufficient irrigation funds, poor maintenance of equipment and facilities, and poor management of irrigation. They should vigorously improve irrigation techniques, actively promote good experiences in pooling the flow of people's wells, reviving old wells, and extending irrigation ditches, and make fullest use of the role of various kinds of power machines and water lifting equipment. Return to the fields of every drop of water is to be advocated, and the irrigated area enlarged to the maximum possible extent so that limited amounts of water bring maximum results. Strenuous efforts should be made on the dryland plain to the north of the Wei to store water and conserve soil moisture with vigorous launching of mass building of storage ponds, pools, and some small scale water storage projects, both to solve the problem of drinking water for people and livestock and to provide water sources for the planting of potatoes and multiple crops of corn to reduce losses caused by the drought.

Second Is Diligently Doing a Good Job of Spring Sowing

Most important in spring sowing is attention to the sowing of early fall ripening crops and economic crops such as cotton and spring oil-bearing crops. Last fall's reduced production of grain and cotton as a result of disasters created great losses for us. This year, it is necessary to make up our minds to increase the harvest from autumn crops. Right now, most important is preparations to plant them to assure that enough are planted and that they are planted well. First, the planting area should be designated according to plan. For the past 2 years, we have followed the principle of adapting general methods to local situations as regards the growing area for cotton, oil-bearing crops, and other economic crops, making appropriate readjustments so that the crop pattern has gradually become equitable, and results have begun to show. Now crop patterns throughout the province should be stabilized with no further readjustments being made. In view of the tendency of not planting according to plan that has occurred in some places, when making plans for spring sowing this year, stress should be placed on obedience to state plans, assuring the grain growing area first. For the present and a fairly long time in the future, grain production must take first place. Given the situation of large transport into the province of grain to eat, there can be no slackening of grain production. Inasmuch as cultivated land is limited in quantity, both for grain and the development of economic crops, most important is raising yields per unit of area and increasing total output. To the maximum extent possible, the growing of economic crops will have to be done on barren mountains and wasteland slopes; there can be no encroachment upon grain fields. This year a tendency toward blind development of the flue-cured tobacco area has occurred that merits close attention. Last year 140,000 mu of flue-cured tobacco was actually harvested throughout the province, and 310,000 dan was purchased by the state. This year's plans call for the sowing of 200,000 mu, but reportedly various places plan on planting a total of 320,000 mu, and an output of 750,000 dan is forecast, an amount vastly in excess of the province's annual requirement for from 300,000 to 400,000 dan. Unless promptly controlled, a situation of slack sales will occur, which will strike at the enthusiasm of the peasants in turn. It is hoped that every jurisdiction will plant the planned area and no more.

Cotton production should be placed on the important agenda of all levels of party and government leadership in cotton growing areas. Cotton is Shaanxi Province's, and particularly central Shaanxi Province's, most important economic crop, and has very great pertinence for the national economy and the people's livelihood. However, during the past several years output has fluctuated without making any progress. It has not been possible to increase it, and last year another disaster seriously reduced output, and damaged the masses' income and development of the cotton textile industry. We certainly must make up our minds to bring about an upswing in cotton production. First the cottonfield area has to be guaranteed. Planned cotton growing area for the province this year is 3.8 million mu, but according to reports from various places, only 3.7 million mu has been planted, a 100,000 mu shortfall. Now it is necessary to place responsibility level by level, and see to implementation county by county, commune by commune, and production brigade by production brigade. If the cottonfield area is inadequate, it should be augmented first from land intended to lay fallow, and if it is still inadequate, wheat fields and rape fields may be used for the transplanting of some seedlings. Second is the need to link implementation of grain policies with grain procurement, giving across-the-board consideration. Third is the need to combine preparations for farming with implementation of cottonfield production responsibility systems and the signing of economic contracts. Outputs must be equitably fixed, and a tendency to be high or low guarded against so that cotton growing peasants will be able to exceed planned production through effort, and have a profit to show for it. Fourth is solution to the problem of insufficient cotton seeds. This year cotton seeds are short in quantity and poor in quality. Experiments done in various places show a sprouting rate for the seeds generally around 40 to 50 percent. Right now the emphasis should be on seed selection, seed shipment, and transfers of surpluses to shortage areas. Sprouting tests should be run everywhere on available seeds, and a seed selection and seed sunning campaign should be begun to increase the sprouting rate, to prepare a sufficient number of cotton seeds, and to assure that the area to be sown will not be adversely affected by a lack of seeds. Fifth is the need to do a good job of technical training and to summarize and spread local advanced experiences, particularly experiences in increasing outputs during disaster years. Scientific cotton farming is to be advocated. Propagation of seedlings for transplanting is an effective means of increasing yields, so plastic sheeting and seedling beds should be promptly made ready. Sowing should be done before 20 March, and timing should not be off. Where conditions permit, certainly means should be figured out for planting more. Sixth is further strengthening of leadership of cotton production. In key cotton growing areas, organizations involved with cotton should be fully sound, should strengthen forces, and positively should not weaken them. Last year disasters reduced cotton output, so some of the masses and cadres lack adequate confidence in growing cotton. Their education must be intensified to overcome feelings of apathy, actively spreading the advanced experiences of other provinces and of Shaanxi Province in increasing outputs of cotton, and establishing confidence about being able to bring about an upswing in cotton production. The province has set 7 March as the date for a provincewide conference on cotton production, for an exchange of experiences, for a check on readiness for farming, and for implementation of cotton growing plans and measures for increasing output. It is hoped that following the conference, all jurisdictions will diligently implement the spirit of the conference, and devote attention to cotton production.

Simultaneous with attention of summer field care and spring sowing should be attention to spring mating and epidemic prevention among livestock, particularly serious attention going to the problem of reversing the decline in live hogs. Unless given a high degree of serious attention, this problem could very possibly result in no pork to eat during the last half of the year in a change from "selling hogs is hard" to "buying pork is hard." All jurisdictions should conscientiously carry out the provincial government's recently issued "Notice on Strengthening Live Hog Production and Management." They should intensify investigation and study, check and summarize the reasons for and the lessons to be learned from the drop in live hog production, and promptly help the masses with problems in production, supply, and marketing. They should protect and expand the growth of boars and sows to assure sources for hogs so that hog raising endeavors will be quickly revived and developed.

Third Is Doing a Genuinely Good Job of Material Supply for Spring Production

Enhancement of the supply of materials is a powerful guarantee for doing a good job of spring production. Acting under the guidance of all levels of CCP committees and government, all units concerned should take concerted action in energetic support of spring farming. The recent meeting of provincial units concerned, convened by the provincial government, specially studied the problems in this regard. First was the need to do a good job of chemical fertilizer production and supply. The present insufficient quantity and lack of needed kinds of chemical fertilizer is a conspicuous problem for agricultural production. The provincial government has decided that henceforth the chemical fertilizer produced within the province must be used on agricultural production in the province, with no marketing whatsoever permitted outside the province. Following centralized distribution plans of agricultural departments and centralized dealings by supply and marketing departments, all chemical fertilizer produced by chemical fertilizer companies will be sold exclusively by supply and marketing cooperatives. Sale price of chemical fertilizer will continue unchanged at the list price set by the state. The procurement price has been set jointly by the Provincial Planning Commission, the Petrochemical Bureau, and the Supply and Marketing Administration. Both the industrial and business sector are to diligently put this price into effect so that there will be no change in supply at near places or distant places resulting from price, causing hardships for the peasants. In addition, there should be resolute opposition to unhealthy tendencies in the supply and marketing of chemical fertilizer, and when problems are discovered they should be severely dealt with. Second is attention to production of plastic sheeting. It is now very close to the time when cotton seedlings are propagated, but the amount of plastic sheeting available is far from able to meet needs. It has been decided that light industrial units should concentrade their forces and concentrate raw materials in a night and day attack for priority production of an amount of plastic sheeting for farm use to catch up with seedling needs. Farm machinery and water conservancy units should organize small agricultural support teams to go to villages to help communes and brigades get their farm machinery and implements, and their pesticide apparatus in shape, as well as to repair and equip irrigation devices. Special attention should be given the energetic production and supply of the various small metal and wooden farm tools rural villages urgently need that are in keeping with establishment of production responsibility systems. Commercial and transportation units must be sure to transport to communes and brigades in time for the farming season the means of production needed for spring farming. In short, all trades and industries are to make a contribution to the support of spring farming and production.

All levels of CCP committee and government are to strengthen leadership, place spring farming and production in an important place, and conscientiously handle it as a central task. Integrated planning of various tasks should be done, and there should be no dissipation of energy and no shouldering aside of spring production. The work teams that the province has sent everywhere are to provide a certain force to help the local party and government leaders take spring production in hand. They are to help the masses solve genuine problems. All jurisdictions are to further diligently implement this year's Central Committee document No 1, and the spirit of the Provincial CCP Committee January Work Conference to eliminate various mental apprehensions existing among cadres and the masses. No matter the forms of production responsibility system practiced, they should be consolidated and further perfected with no further changes being made lightly, so that the masses will set their minds at ease and get on with spring farming and production. Cadre responsibility systems and technical promotion responsibility systems linked to output are to be established. Leaders at all levels are to take the lead in the planting of experimental fields, to explore experiences in increasing yields, and to guide work in the area as a whole. As a result of the planting of experimental fields, they should straighten out their ideological line, learn about science and technology, and gradually become both red and expert. Agricultural science and technical personnel should go into the fields to analyze plant situations and recommend specific care measures. Management of workforces should be improved with overall planning done for use of labor in agriculture, industry, and sideline occupations to prevent an outflow of workforces in order to assure workforce needs on the front line of spring farming and production. Reorganization of grassroots organizations is to be done, leadership groups for the reorganization at the grassroots acting to give impetus to current production. Consolidation and replenishment of grassroots cadre ranks, support to them to work courageously and lead production well is to be done. Management of markets is to be strengthened, and attacks directed against profiteering and speculation in the maintenance of order for spring production. Good planning for the livelihood of the masses is to be done, particularly attention being given to disaster areas here and there and to newly discovered disaster areas to guarantee a minimum standard of living for the disaster area masses and the necessary conditions for carrying on production. The Provincial CCP Committee and provincial government have issued a special notice about the issue of living arrangements, which should be put into effect at once to assure that no problems arise. Spiritual civilization and material civilization are to be linked, spiritual civilization giving impetus to the building of production. Good people who do good deeds are to be commended, and an emulation campaign should be launched to arouse the masses' enthusiasm for doing a good job of spring production, and to contribute their strength to winning a bumper summer grain harvest and an all around bumper harvest in agriculture for the year as a whole.

9432
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WESTERN MOUNTAIN REGION BLOSSOMS WITH AFFORESTATION

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 1, 5 Jan 82, pp 13-14

[Article by Correspondent Zhang Guoning [1728 0948 1380]: "The Hope in View from the Western Mountain Region"]

[Text] The western mountain region of Shanxi Province includes the 4 prefectures of Yanbei, Xinxian, Luliang and Linfen, plus the 32 counties and districts of Taiyuan and Datong. Since 1978, the pace of greening has greatly accelerated on the 51,000 square kilometers of land extending from the Great Wall in the north to the southern end of Luliang Mountain. As of 1981, the area that had been afforested and survived in the western mountain region amounted to 3.46 million mu. The wasteland hills and bald mountains and the countless ravines and valleys of Youyu, Yonghe, Ji and Xiangning counties were decked in green. This provided a model for control of the loess highlands and the building of the "Three Norths" shelter forest system.

Taking the Road of Forest and Livestock Development First

The western mountain region occupies one-third the total land area of Shanxi Province. Cultivated land amounts to 25.5 percent of the total in the province, but during the past several years grain output has amounted to only 16.1 percent of the province's total, and peasant earnings are low. It is the poorest place in Shanxi Province, every county and commune having a group of "three dependents" brigades. The food and clothing problems of the peasants have not yet been solved.

The western mountain region has been liberated for more than 30 years, so why have changes in its circumstances not been very great? Mostly for two reasons. One has been the excessive clearing of land and reckless timbering over a long period of time that has resulted in scant vegetation cover and serious erosion. As the masses say, "When mountains are cleared all the way to the top, people become poor and die out." Secondly, "leftist" humbug bound the peasants hand and foot so they were unable to adapt farming to the local land. Mountain areas should place the planting of trees, the growing of grass and water and soil conservation in a primary position; however, several years ago, great emphasis was given to "changing the soil to control water," removing mountains and filling in ravines and building reservoirs.

An overwhelming majority of places should have made forestry and animal husbandry foremost in the practice of economic diversification, but for a long time they practiced "monoculture." Programs to set things right were not on the track, and the damage done is difficult to measure. A survey done by provincial water conservancy departments shows that over the years a total of 110 large, medium and small reservoirs were built in the western mountains. Of the total, 298 million cubic meters or 34.6 percent of 11 large- and medium-size reservoirs with a storage capacity totaling 860 million cubic meters have silted up. This is to say that one-third of the reservoirs have been rendered useless. The masses sadly say, "We don't mind working hard, but we do mind working in vain!"

Following the 3d Plenary Session [of the 11th Party Central Committee], the Shanxi Provincial CCP Committee and the Shanxi Provincial People's Government conducted a diligent investigation and study of the western mountain region and decided that the western mountain region should unswervingly follow a course of making forestry and animal husbandry paramount. They took the following action: (1) Liberalized policies, using to maximum extent western mountain region advantages in having much land suitable for forests. Wasteland hills under state forest farm administration would be afforested jointly with communes and brigades, or else a portion of them would be designated for administration by neighboring communes and brigades. Commune and brigade barren hills suitable for forests, the large area afforestation of which could not be completed within a short period of time, would be partially turned over to state farms or groups for afforestation. Trees grown in front of and behind commune member houses that had been confiscated during the movement to learn from Dazhai were to be returned in toto. Those that had been cut down would be compensated with cash. (During the past more than 2 years, more than 1.6 million trees have been returned, and more than 250,000 yuan in restitution paid.) Destruction of forests and clearing of land have been strictly prohibited, and some counties have replanted forests and grass on cleared land with a slope of more than 25 degrees. They have also designated for the planting of trees by individual commune members wasteland hills, slopes and ravines suitable for the growing of forests. (2) Proper handling of the relationship between forests and grain. Except for those places having conditions requiring building of basic farmland to achieve self-sufficiency in grain, for the next few years in those counties where self-sufficiency in grain will be difficult to achieve, the requirement to achieve self-sufficiency in consumption grain rations should not be pushed. Instead, grain shortfalls should be solved on a case-by-case basis of area afforested and preserved. During the past 2 years, in addition to reducing and exempting excess grain procurement and some public grain procurement, the Provincial People's Government has allocated 170 million jin of grain to support western mountain region development of economic diversification. Once the masses had been relieved of the nagging worry of having food to eat, their enthusiasm for the planting of trees and the growing of grass redoubled. (3) Increased investment in forestry. In addition to the sums provided the western mountain region by the "Three Norths" Bureau, in recent years the Provincial People's Government managed to find an additional more than 7 million yuan of local public funds for support. More than 10 counties also collected somewhat more than 4.3 million yuan themselves for development of forestry. Some prosperous communes and brigades consciously applied public accumulation funds to afforestation. At the same time, counties signed agreements with communes and brigades for civilian cooperation and public assistance in afforestation. That set the tasks to be performed, the quality, the time period, the remuneration and the rewards and penalties. After the contracts were signed, 60 percent of the support funds were paid. Following strict examination prior to approval to assure that survival rate and conservation area requirements had been met, the remaining 40 percent was handed over. This way of doing things combined responsibilities, rights and benefits for very good results. (4) Intensification of care and protection of mountain forests to improve economic benefits. Following Provincial CCP Committee approval, the Shanxi Shelterforest Construction Bureau was established in 1979. This special management organization devoted itself to two principal tasks. The first was to help each of the counties to carry out a rectification of ideological style, consisting largely of education by positive measures or examples, at the more than 30 forestry stations. Second was to maintain a work focus directed mostly toward the four river basin tracts of the upper reaches of the Fen He, Songjia Chuan, Sanchuan He and Xinshui He, and at the windblown sand line running along the Great Wall, helping the prefectures and counties concerned to select, on the basis of the mountain system and stream basins, more than 80 key forestry projects. The minimum area suitable for forests in this project was somewhat more than 10,000 mu each. In 1981 alone, somewhat more than 100 provincial, prefecture, county and commune forestry sites afforested and kept alive more than 388,000 mu. Afforestation standards were high and quality good, serving as a model for individual communes and brigades, and providing zest for development of large area afforestation.

"Thirty percent afforestation and 70 percent care." Once afforestation had been done, administration and management was crucial. They used various forms of responsibility systems such as specialized contracting and linking output to calculation of remuneration to assure good care for forest trees. The form of a responsibility system practiced by Ji County was largely one of full contracting for propagation of seedlings, preparation of land, planting and protection over a several-year period. Workpoints were recorded each year for 85 percent of the specified amount of work, and following inspection and approval in the succeeding year, bonuses or penalties were awarded according to survival rates. Some places contracted individual jobs or multiple jobs, small work segments, or large-scale assignment of responsibilities. In order to solve the problem of no immediate material benefits from forest contracting, Ji County did four things. First, it designated certain land for use in growing both forests and grain as supplementary assistance to the contractors. Second, for brigades in which workpoints had a high value, bonus workpoints were equitably collectively given for farming, forestry, animal husbandry and sideline occupations. Third, grain or money allowances were given forestry personnel on the basis of their work. Fourth, a system of sole responsibility for profits and losses was instituted for production teams with orchards, excess output being theirs to keep. Institution of responsibility systems not only fully aroused the enthusiasm of the myriad households for afforestation, but also greatly increased the forest conservation rate and commodity rate.

Reliance on the power of policies greatly hastened the pace of the greening of the western mountains, which advanced at an annual rate averaging 860,000 mu. In some counties, afforestation averaged 1 mu per capita per year. In addition, more than 460,000 mu of pasture grass was planted, and 500,000 mu of mountains were closed off to the public for return to forests or grasslands. Each year more than 130,000 mu of seedlings were grown. For the past 4 years, the Xinshui He basin in Linfen Prefecture has annually afforested a preserve area of more than 300,000 mu for the initial formation of a more than 400 li long continuous shelter forest system. In more than 2 years, Ji County afforested 300,000 mu, which was 130,000 mu more than the total amount of afforestation done during the previous 30 years. In some places the long-standing vicious cycle began to change.

Leaders Who Vied in Afforestation

The Shanxi Provincial CCP Committee and its members in positions of responsibility attached extreme importance to the building of forestry throughout the province and served as models for CCP committees at all levels. This was another important reason why afforestation of the western mountains went so rapidly. The Provincial CCP Committee and provincial government's principal comrades in charge thoroughgoingly investigated and studied each county, conducted discussions with local county and commune cadres and commune members for further ideasson forestry construction, and worked out with comrades in forestry departments long-range plans and specific measures to be taken for forestry development. Because leaders in the Provincial CCP Committee and Provincial People's Government had thoroughly explored realities in the western mountain region, the several documents, regulations and methods formulated in the province on forestry production accorded rather well with realities and played a constructive role in consolidating mountain rights, forest rights and implementation of forestry production responsibility systems. Most personnel in charge and cadres in provincial forestry departments practiced what they preached and persevered in giving tailored guidance. Provincial Forestry Department director, Liu Qingquan [0491 3237 3123] had served as County CCP Committee secretary during the 1950's and 1960's in Xia and Ji counties. He loved forestry dearly and was known throughout the province as "the afforestation secretary." Wherever he went he did afforestation with the masses. That Xia and Ji counties have been able to become advanced counties in forestries is partially attributable to his efforts. Competition throughout the province and in the western mountain region for leadership in afforestation is becoming greater and greater. Counties, communes, brigades and forestry units in the western mountain region that have received commendations and awards during the past 2 or 3 years total 278, with 107 model workers. At a provincial forestry awards conference held in June 1981, 63 counties, communes, brigades and forest farms in the western mountain region received rewards, and 36 cadres from various levels and commune members were designated provincial forestry models. Those commended as forestry models included Youyu County CCP Committee secretary, Chang Lu [1603 4389]; Ji County CCP Committee secretary, An Kang [1344 1660]; Shenchi County CCP Committee secretary Wang Juqing [3769 5112 3237]; Xing County CCP Committee secretary, Bai Shan [4101 0810]; and Pianguan County CCP Committee secretary Zhang Shiquan [1728 0013 0356] as well as cadres in charge at 15 communes. These comrades were designated afforestation secretaries, but the county magistrate, chairman and the masses extolled them as "people who put down roots." Now the planting of trees for afforestation and the creation of wealth for posterity has become a genuine activity for the broad masses of cadres in the western mountain region. The greening of the motherland with such a group of cadres in its vanguard has spurred on the multitude to mass action for a solid job of afforestation. The barren desertlands and the exhausted valleys and ravines depleted of water have become a moving vista of green mountains, running water, luxuriant forests and abundant grain. What is the future outlook for the loess highlands? The people can take hope from looking at this.

9432
CSO: 4007/258

BRIEFS

COTTON EXPERIMENT--This year, the No 148 farm of the 8th Agricultural Division of the Xinjiang Production and Construction Corps has continued to conduct cooperative experiment in ginned cotton with the Namoi Cotton Cooperative in Australia, the (Hefanbao) Economic Company in the United States and the Hong Kong International Cotton Company, Limited. Over the past 2 years, the farm has achieved satisfactory results in conducting cooperative experiments in ginned cotton with foreign countries. This year, they have decided to expand the areas for cooperative experiments to some 6,800 mu, 10 times larger than in 1980. Of the 6,800 mu, some 6,000 mu is economic farmland, the main objective of which is to increase production and economic income while some 500 mu is experimental farmland, the main objective of which is to conduct scientific experiments. By the end of April, all cotton fields had been sown with seeds. Seedlings are now growing well. [HK251425 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 18 May 82 HK]

CSO: 4007/429

CADRES URGED TO PROMOTE DIVERSIFICATION OF ECONOMY

Kunming YUNNAN RIBAO in Chinese 24 Mar 82 p 1

[Artilce by YUNNAN RIBAO contribution commentator: "Take Full Advantage of Superior Local Conditions To Diversify the Economy"]

[Text] Natural resources of various kinds are abundant in our province. During the past few years we have seen some economic factors begin to bring their superiority into play. For example, initial steps have been taken to make tobacco, sugar, tea, rubber and other products our province's "hot-selling" items. It can be said that such "hot-selling" products will have a decisive role to play in developing light industry and foreign trade, and in bringing additional income to the treasury of Yunnan Province. But generally speaking, some economic factors are not yet in a position to demonstrate their superiority. Particularly noteworthy are forestry, animal husbandry, sideline production, and fishery, which remain a weak link to date in the development of the national economy of our province. Although some crop cultivation and breeding businesses such as sericulture, fruit and vegetable farming, hog raising, and poultry egg cultivation have gathered some strength, the pace of their development remains very slow. Also falling below standard is their marketable rate. The output of some products and their purchases remain far from being able to smash their own previous records. For example, in 1981, the output of trefoil rubber, for which Yunnan was named the nation's number one or key producer was only one-sixth of its previous highest output; the output of tea was only 40 jin per unit, down 25 jin from the average national level; the live hog survival rate was only 42 percent, down 20 percent from the national level; the sheep survival rate was only 7 percent; the cattle survival rate was only 3 percent, below the national level of 6 percent. Steps must be taken to change this situation. Beginning this year, we must vigorously devote our energy to overcoming these weaknesses in the midst of the superior economic factors in our province.

In terms of our guiding ideology, developing superior economic factors naturally means efforts to develop projects capable of yielding returns in a short period. At the same time, we must consider things from a long-range strategic point of view, coordinate short-term projects with long-range plans, and back up long-range developments with short-term arrangements. Not only we must fully tap the potential of existing farmland, but we must also envision the development of the entire province. Yunnan is a mountainous province Of its entire land area, 6 percent is irrigated zone, and 94 percent is mountains. Except for craggy terrain, over 80 percent of the province can be covered by trees. The province now has 170 million mu of wasteland which are suited to tree growth, 90 million mu of land now either barren or sparsely planted with trees, 4.2 million mu of water-covered areas. It potential of developing forestry, animal husbandry, fishery, and sideline production is very great. From the long-range point of view, we must gradually begin to shift the emphasis of our work to the diversification of the economy through development of the mountainous areas, waterways, tidal land, grassy slopeland, cropping and breeding farms operated by collectives and families.

The forestry resources in our province are abundant. But the prolonged delay in seeking good answers to some problems concerning policy has caused serious damage to the resources. The destruction of ofrests in some localities has resulted in serious losses of water and soil erosion. The disappearance of this superior economic factor that can be demonstrated through the development of forestry has dried up water for crops and domestic animals, and has even caused shortages of drinking water for people.

We must remember this as a profound lesson. Although much remains to be done in order to bring the superiority of forestry into play, a primary task now facing us is to uphold the principle of forest management as a matter of prime importance, and to display determination to correct problems caused by those who emphasize only logging instead of reforestation and management, and who go on logging without authorization. A look at the current situation suggests that swift action must be taken to enforce the "three-quota system" as a key step in seeking solutions to these problems.

Second, vigorous efforts must be made to promote the production of forest products and byproducts through the successful multipurpose utilization of forest land. Although Yunnan pine and Simao pine abound here, in 1981 we produced only 8,200 tons of surpentine, equal only to 3.7 percent of this available resource. As long as party committees at all levels can effectively strengthen their leadership and take effective measures to tap this superior potential of surpentine production, greater results can be expected in the near future. If we will promise to protect this natural resource from destruction and do everything possible to accelerate the development of turpentine, all existing processing plants can be expected to operate at full capacity within a couple of years. During the past several years, we have witnessed a sharp drop in the output of trefoil rubber. We must conscientiously sum up our experience and lessons in this respect so that we can increase rubber production in the near future. Among other useful forest byproducts are arbutus and olive tree skins, raw materials that can be used to produce adhesives that are essential to the processing of high-quality leather products. In short, the prospect of the multipurpose utilization of forest products and byproducts is bright. This year, vigorous efforts must be made to tap this hitherto untapped potential.

Furthermore, vigorous efforts must be made to promote tea production. The moderate precipitation, climate, and soil conditions in our province are favorable to the growth of tea leaves. With the blessing of this abundant natural resource, our province claims a long history of tea farming. Of the 130 counties and municipalities in the province, 120 have grown tea and the plantations now cover nearly 900,000 mu of land. In 1981, their gross output of tea was 380,000 dan. Yunnan tea is a "hot-selling" item at home and abroad, an important contribution to the province's economic income. Although tea is already a "hot-selling" product in this province, its potential still needs to be tapped. At present, the tea growers in this province face the following problems of major concern: 1) many of their tea plantations are old-fashioned, and are plagued by a lack of ponds; 2) their management is poorly and loosely organized, and their per-unit output remains very low; 3) efforts need to be made to speed up the development of new tea plantations. Because no efforts have been made to break through this sluggish state of tea production, the gross output of Yunnan tea is now ranked seventh, down from fourth on the list of the nation's tea producers. In order to change this situation as quickly as possible, we must make vigorous efforts to transform the low-yielding tea plantations, put into effect the responsibility system, strengthen the management, and strive to increase the per-unit output of tea to nearly 60 jin in the next 2 or 3 years. This means that the potential of the old-fashioned tea plantations can be strongly tapped through transforming them. In the course of transformation the low-yielding tea plantations, the state, collectives and individuals must work together to develop the new tea plantations vigorously.

Although animal husbandry is another superior potential to be tapped in our province, it is also a weak link in the economy. At present, the main problem is the low livestock survival rate and low marketable rate of the meat. Although the reason for the low livestock survival rate is manifold, the main factor stems from our failure to take effective measures to improve the management, scientific breeding techniques, and ventilation of pens. Particularly noteworthy are the high death rates of hogs and chickens, shortages of veterinary teams at basic levels, and the deterioration in the immunization service. In the course of developing the animal husbandry, we must grasp the following points well:

1) Quick efforts must be made to restore the veterinary organizations at basic levels, and to help them improve their technical skills, establish a responsibility system and a reasonable compensation system designed to stimulate the enthusiasm of workers and to promote and popularize scientific livestock breeding techniques. 2) We must do a good job of giving domestic animals immunization shots in marketplaces, at communications centers, and along the borders during the spring and autumn seasons. Veterinary teams and the masses must work together to give immunization shots to 70 to 80 percent of the domestic animals this year in an effort to bring the livestock death rate down to the normal level. 3) Vigorous efforts must be made to promote nutriently well-balanced feed. 4) Vigorous efforts must be made to develop professional and full-time livestock breeders. 5) Steps must be taken to build cross-breeding networks; extensive efforts must be made to improve the varieties of domestic animals, and to consolidate the porkling breeding bases of collective ownership. Commune members must be encouraged to raise sows and breeding hogs in an effort to speed up the production of live hogs and to raise the meat growth rate and its marketable rate.

A vast area of this province is covered by water. In this area, nearly 2,596,000 mu of land can be used to raise fish. The aquatic resources are very rich in the province. But the output of fish remains very low, as low as only 5.9 kilograms per mu of land, which is far below the national level of 28.9 kilograms. In 1980, the distribution of fish was only 0.51 kilogram per person, an amount that fell far short of the people's needs. This problem needs to be solved. At present, the important task is to list the development of fishery as an important item on our agenda, to overcome the "leftist" influence, and to prevent the tendency of catching fish without control and authorization. In the course of actively adjusting, reorganizing and consolidating the fishing operations, we must take resolute measures to protect the aquatic resources, put into effect the fishery policy, and establish and improve the organization of management. Meanwhile, we must institute and improve the responsibility system. Under the principle of facilitating the development of production and the management of fish raising, we can award contracts for fishing raising to professional teams (groups) or individuals. We can also allow them to raise and produce specific amounts of fish from ponds (depending on their size), or award them similar contracts through open bids. Such contracts should be valid for years, and should not be subjected to changes before their expiration date. Furthermore, we must do a good job of scientific research and of selecting and breeding good varieties.

As for those commodities now in short supply at home and abroad, including silk, tung oil, raw lacquer, coffee, spices, strawberrys, star aniseed, udo, southern medical herbs, edible fungi, walnuts, mushrooms, and bamboo shoots, we can take the initiative to develop them in a way that takes into consideration the local conditions. We must strive to overcome the tendency of emphasizing big and neglecting small, of emphasizing "watermelon" and neglecting "sesame," of being unwilling to begin with a small project at a time when we do not have adequate capital to launch ambitious projects. We must broaden the prospect of production from a realistic point of view. In the course of directing production, we must devote our attention to closely coordinating mass production with small-scale production under overall planning and reasonable arrangements. In a special pledge to serve the needs of cities and factories, those living on the outskirts of cities must actively strive to develop the production of vegetables, fruit, poultry eggs, and meat. Our province enjoys a broad prospect for developing agricultural products and byproducts processing enterprises, and we must actively strive to develop them. First, active efforts must be made to develop the processing of agricultural products and byproducts on the spot and to develop a process of selecting products and their multipurpose utilization, in connection with the efforts to develop superior products. Second, in accordance with the principle of economic return on investment and in pursuit of a guarantee to provide the state-owned processing enterprises with sufficient raw materials, the local processors must work out plans on the basis of the availability of raw materials and technical equipment and of the marketing survey of products, and specify the division of responsibility reasonably so that they can avoid losses caused by blind development. Third, attention must be paid to improving the processing technology and quality of products. Fourth, successful efforts must be made to consolidate the existing enterprises operated by communes and brigades.

In the course of diversifying the economy, we may encounter many problems involving industry, commerce, finance, banking, communications and other sectors of the economy. We must effectively strengthen the leadership of party committees and governments at all levels and consider it very important to bear the overall situation in mind. We must also concentrate on grasping the following points well:

First, we must do a good job of implementing the policy and plans for production. In doing so, we must work out a guiding principle and uphold the policy of supplementing the planned economy with marketing surveys: 1) we must extensively educate peasants in "three considerations"; 2) we must widely put into effect the economic contractual system; 3) we must consider administrative intervention, if necessary.

Second, vigorous efforts must be made to establish and improve the responsibility system of economic diversification and to raise the levels of science and technology. Under the responsiblity system of economic diversification, unified management must be emphasized, and contracts based on the needs of various economic operations can be awarded to various professional teams, households, and individual workers for the purpose of facilitating the development of commodity production. Various localities must sum up and exchange their experiences in this respect. Since the responsibility system was put into effect, the vast numbers of cadres and people in the countryside have expressed a strong desire to study science and its application. The leading bodies at all levels must concentrate on promoting agricultural science and technology with the same determination and courage they have displayed in the implementation of policies and the responsibility system. To meet the needs for diversification of the economy, they must concentrate on grasping the following tasks well: 1) They must step up the training of specialized personnel and technicians, and must build and strengthen the contingents of scientists and technicians at the basic level, so that our scientific and technological institutions at all levels can be established and perfected step by step. 2) They must make vigorous efforts to disseminate current achievements in science and technology, and pay attention to coordinating the application of the traditional agricultural experience with that of modern science and technology. 3) They must widely put into practice the joint production responsibility system associated with science and technology, and forge a tie between scientific research and production. 4) Agricultural research units at all levels must organize scientific research in a way designed to tackle certain technical difficulties.

Third, in addition to concentrating on implementing principles and policies and on promoting science and technology, leading cadres at all levels must learn to operate and manage enterprises, learn to do business until they become skilled in economic work, and gradually rid themselves of the manners of "country bumpkins."

Fourth, efforts must be made to speed up the circulation of commodities in the countryside.

Fifth, strengthening leadership over the development of the diversified economy is a problem that needs to be solved by the organizations concerned.

Every plan needs to be implemented by man. Otherwise, all principles, policies, and methods, no matter how perfect, will become empty talk, if they are not put into practice by people. For this reason, departments concerned with economic diversification at all levels must organize people to go to the frontline of production to help the grassroots units effectively solve problems and carry out measures. They must act immediately in order to score new successes in diversifying the economy this year.

9574
CSO: 4007/380

POINTERS GIVEN FOR CONSISTENTLY HIGH COTTON YIELDS

Hangzhou ZHEJIANG RIBAO in Chinese 21 Mar 82 p 2

[Article by Chen Qiqing [7115 1142 3237], Shi Cunhao [2457 1317 6964], and Shao Xiaozheng [6730 2551 1767]: "Recognize Objective Realities To Win High Cotton Yields"]

[Text] Zhejiang Province's cotton production has revived and developed during the past several years, but development has not been fast. Last year, in particular, the extent of decline in output was fairly large, arousing concern in all quarters. Among some cadres and the masses there has been a certain amount of discussion as to whether Zhejiang Province is suitable for the growing of cotton and whether high yields can be realized, and there have been fears of difficulty in growing cotton. Recently we made a special investigation and study of this problem.

Zhejiang Province is one of the major cotton producing provinces in the country. It has a long history of cotton growing, and the masses have abundant experience in it. Since the founding of the People's Republic, the province's cotton production has grown very greatly under the leadership of the party, and output has increased severalfold. In 1949, the province's ginned cotton yields averaged 12 jin per mu. In 1964, this increased to 107 jin, making Zhejiang the first "Program" province for cotton in the country. In 1968, the maximum year, yields reached 138 jin per mu. In Ciqi County, more than 400,000 mu of cotton averaged yields of somewhat more than 150 jin per mu, and there were some communes and farms that had yields of more than 200 jin per mu. Ciqi's experiences in growing cotton were spread and extended to numerous cotton growing areas, and the footprints of cotton farmers extended over more than 10 fraternal provinces and municipalities. While he was alive, Premier Zhou was extremely attentive to Zhejiang's cotton production, and he placed a very high value on Ciqi County's experience with high cotton yields. In 1980, despite fairly severe natural disasters, yields continued at 103 jin per mu, making Zhejiang the country's province with the highest yields. Although the province's overall cotton output declined considerably in 1981; nevertheless, in this year of disaster 9 counties and 108 communes had ginned cotton yields of more than 100 jin per mu. The foregoing facts show that Zhejiang Province's cotton growing areas are suited to the growing of cotton, and are capable of high yields.

In that case, what are the problems that impair the province's production of cotton, and given the province's objective realities, what key measures have to be adopted in order to realize consistently high yields?

1. Accurate Understanding of the Province's Climatic Characteristics, Playing Up Strengths and Playing Down Weaknesses To Achieve Early Seedlings, Early Development, and Early Ripening. Climatic conditions in Zhejiang Province both provide many advantages for cotton production, such as a long frost-free period, fairly high temperatures, and ample amount of heat, and also contain some disadvantageous factors, such as the plum rains of the springtime, and notably the typhoons and autumn rains at the end of the season, which greatly hurt consistently high cotton yields. In 6 of the 32 years since Liberation, typhoons caused fairly severe damage to the cotton crops, and in these 6 years, cotton yields averaged 66.8 jin per mu. Flooding caused by rain (the plum rains of spring and the autumn rains) caused fairly severe losses to cotton crops in 11 years; yields averaged 66.5 jin per mu then. Zhejiang Province experiences typhoons frequently, most of them occurring in August. Destructive typhoons are particularly likely to occur after mid-August. Twenty-six years of meteorological data show that autumn rains occurred in late August in 20 years. Therefore, in order to get consistently high cotton yields in Zhejiang Province, it is necessary to play up strengths and play down weaknesses, to guard against disasters and to combat disasters, earliness being the most important thing for the practice of the "three earlys." Early seedlings are the basis; early development is the key; and early ripening is the assurance. This is to say that the optimum flowering and boll-formation period for cotton must be taken firmly in hand to achieve early formation and much formation of summer bolls before 15 August avoiding, insofar as possible, the "August havoc," and the "September rot" typhoons, and disastrous autumn rains. Whenever this can be done, consistently high yields can be realized. Last year, Taohua Commune on a sea island in Putuo County had typhoon disasters that were much more severe than in other cotton growing areas; nevertheless, from the somewhat more than 4,000 mu of cotton in the commune, yields amounted to 138 jin per mu, both yields per unit of area and total output reaching all-time highs. It was the word "early" that underlay this very important experience of this commune, making possible sturdy seedlings that developed early, and summer bolls that carried the day.

2. Improvement of Production Conditions, Strengthening of Ability to Withstand Disasters, and Promotion of a Benevolent Cycle in the Ecological Environment. Experiences from everywhere have shown that doing a good job of cottonfield capital construction to improve water, soil, and fertility conditions for production are key measures in realizing consistently high cotton yields. A very important reason for Ciqi County's high cotton output in the 1960's was adherence to a farming system that used superior varieties, "deep ditches and high ridges" in cottonfields, good drainage and irrigation conditions, a green manure area stabilized at more than 80 percent, and reasonably spaced planting of spring blooming varieties. Subsequently, under the influence of "leftist" ideology, some communes and brigades filled in streams and leveled ditches, grew little green manure, and planted spring blooming varieties closely. The soil became leathery and foliage shading was serious, causing a vicious cycle in the ecological environment. Consequently, much

attention must be given regulation of water and improving the soil in adherence to and revival of traditional planting techniques using "deep ditches and high ridges," equitable planning of the preceding crop, the growing of plenty of green manure, and doing a good job of purification and rejuvenation of cotton varieties to hasten regeneration of fine varieties.

3. Scientific Use of Fertilizer in Accordance With the Laws of Growth and Development of Cotton, Doing a Good Job of Handling the Relationship Between Advancing and Retarding. One of the reasons for reduced cotton output by some communes and brigades during recent years has been improper management of fertilizer and water. In violation of the laws of growth and development of cotton, blind fertilization has been done, with too little organic fertilizer used with the result that an imbalance has been created between vegetative growth and reproductive growth. The experiences of many high yield units attest that in handling the relationship between advancing and retarding, only when plenty of organic fertilizer is used and scientific fertilization is done will cotton grow steadily without premature decline to produce consistently high yields. After increasing the soil's basic fertility, in recent years the Ningwei Commune in Xiaoshan County promptly fertilized for seedling growth, fertilized again for control of squaring, again for cotton boll formation, and also fertilized with ashes and chemical potash. In addition, it did a good job of disease and insect monitoring and reporting, and prevention and control work. It was able to steady and lengthen the squaring period and stabilize the cotton boll formation period to prevent premature deterioration, harvesting numerous and large cotton bolls for yields averaging 126 jin per mu during the past 4 years.

In order to bring about a rise in cotton production this year, cotton growing area production responsibility systems have to be further perfected, planting being done in accordance with state plan as well. In the course of investigation during the previous period, it was discovered that some communes and brigades in cotton growing areas were preparing to reduce the planned cotton growing area. This problem should arouse serious attention. Cotton is a good that bears on the national economy and the people's livelihood. Account must be taken of the situation as a whole for proper implementation of agricultural production programs. While positively not relaxing grain production, cotton production should be actively taken in hand to win a bumper cotton harvest this year.

9432
CSO: 4007/356

OVERALL STATUS REPORT ON COMMUNE ENTERPRISES GIVEN

Hangzhou ZHEJIANG RIBAO in Chinese 5 Feb 82 p 1

[Article by Reports Unit, Provincial Commune and Brigade Enterprises Administration: "Total Annual Income Amounts to Almost One-Half Gross Income From the Three-Tier Rural Economy. Province's Commune and Brigade Enterprises Continue Healthy Development. Paid 300 Million Yuan in Taxes to State Last Year. Average Income Increase of 35 Yuan Per Capita of Agricultural Population"]

[Text] In 1981, Zhejiang Province's commune and brigade enterprises carried out CCP Central Committee programs for the national economy of further readjustment, winning continued, healthy development. Gross income amounted to more than 5.8 billion yuan, a 20 percent increase over the previous year, with gross output value of commune and brigade industry amounting to somewhat more than 5.3 billion yuan. Thus, commune and brigade enterprise earnings amounted to about 49 percent of gross earnings from the three-tier rural economy of the province. Gross output value of commune operated industries amounted to 13.8 percent of the province's gross industrial output value.

In 1981 all levels of CCP committees and government in the province earnestly strengthened leadership over commune and brigade enterprises to assure smooth performance of readjustment programs. Departments in charge of commune and brigade enterprises, and commune and brigade leaders everywhere established a conception of the situation as a whole, and proceeded from the needs of the country and the markets, and from local realities and possibilities to carry out diligent readjustment and reorganization on the basis of the individual situation in each kind of enterprise. For the 40 percent of the province's commune and brigade enterprises whose production orientation was on the right track, for which sources of supply for raw materials existed, and for which markets existed for their products, the watchword was "up," [management] with efforts centering on reorganization of enterprise management and increasing product quality. Many enterprises turned out "hot-selling" goods that met advanced provincial and national standards. For electro-mechanical enterprises whose goods could find no markets, then the watchword was "conversion," with consolidation and upgrading being done in the course of conversion of production. In Ningbo Prefecture, for example, more than 2,300 electro-mechanical enterprises operated by communes and brigades accounted for 37 percent of the prefecture's total number of commune and brigade-operated enterprises. They had converted "heavy" [industrial enterprise] to "light," and used "rural people" rather than "city workers" in an effort to readjust the direction of service enterprise and change in product composition. Last year, these enterprises' output value amounted to more than 380 million yuan, a 40 percent increase over the previous year. For the approximately 5 percent of commune and brigade enterprises in the province whose products could find no markets or sources of supply of raw materials, or which consumed large quantities of energy or seriously polluted the environment, some were resolutely "closed" or "suspended." Attention was focused on "up, conversion, and down," [management, flexibility and basic level of production] so that the province's commune and brigade light industries and heavy industries would have coordinated development. Last year's output value from commune and brigade light industries as a proportion of gross output value for all commune and brigade enterprises in the province rose from the 51 percent of 1980 to 64 percent. Output value commune and brigade industry consumption goods used in the daily lives of the people for food, clothing, daily use, or living amounted to about 80 percent of gross output value.

Healthy development of commune and brigade enterprises has brought increased benefits for the country, for rural commune and brigade collectives, and for individual commune members. In 1981, commune and brigade enterprises in the province paid a total of about 1.1 billion yuan in compensation to labor or for distributions to production teams, an average of 35 yuan per person engaged in agriculture in the province. The province's commune and brigade enterprises paid revenues of 300 million yuan to the state, a 50 percent increase over the previous year.

9432
CSO: 4007/312

BRIEFS

RICE TRANSPLANTING--As of now, early rice seedlings transplanting has been completed on more than 10 million mu in Zhejiang Province. Efforts are being made to finish all early rice transplanting soon. [OW301325 Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 27 May 82 OW]

CSO: 4007/429

AUTHOR: GU Fengtian [6253 1144 1131]
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TITLE: "Ecological Environment and Utilization of Natural Resources in Huanghe Delta"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 1, Mar 82 pp 18-25

ABSTRACT: The estuary of Huanghe includes the 4 parts of the modern estuarial delta, the lowlands of the lower reaches of Tuhai and Majia rivers, the lowlands of the lower reaches of tributaries, and the shore areas. This region of about 10,600 km^2 is a part of the northwestern plain of Shandong, where the unstable ecological system constitutes the important problem in the utilization of its natural resources. The vegetation is undergoing various stages of changes and aside from such factors as reclamation, grazing, and industrial pollution, these changes are closely related to the variable saline contents of the soils. The terrain and the dynamic state of the ground water have a very great effect on the salinization and desalinization of the soils. During tidal ingressions and channel changes of Huanghe, a change of vegetation follows. Shengli oil wells are extensively distributed in this region. Everyday, 72 thousand tons of waste water containing petroleum and phenols is discharged to alkalize the soils and destroy the plants. With the rapid change of the environment, the inhabitants have gradually moved away and the development of the

[continuation of ZIRAN ZIYUAN No 1, 1982 pp 18-25]

natural resources and their protection have become increasingly difficult as well as urgent. The authors offer suggestions in the following 7 ways to harmonize the region's ecological system: (1) Maximum utilization of the silt resource of Huanghe; (2) Introducing and experimenting with Damicao [a weed of Genus Gramineae] and bluish dogbane [Apocynum venetum]; (3) Afforestation to reconstruct an ecological balance; (4) Readjusting the swine-dominated animal husbandry structure in favor of the development of grass-eating animals;(5)Coordinating agriculture with forestry to start a large scale construction of firewood and charcoal producing forests; (6) Emphasizing good management of State-operated farms to establish a foundation for gradual creation of various forms of joint enterprises of agriculture, industry, and commerce;(7) Strengthening research studies of ecology, geological and geographical sciences, and biological sciences of the Huanghe estuarial region. Each of the above aspects is discussed in some detail.

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END

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I. GENERAL INFORMATION

SCIENTIFIC FARMING SAID SEQUEL TO PRODUCTION RESPONSIBILITY SYSTEMS

Beijing RENMIN RIBAO in Chinese 26 Apr 82 p 5

[Article by He Kang [0149 1660]: "Agricultural Modernization and Reliance on Science To Develop Agriculture"]

[Text] Basic Characteristics and Survey of Development of Modern Agriculture

The fundamental characteristic of modern agriculture is the application of modern science and technology plus investment of substantial material and energy to gradually replace traditional agriculture founded on experience with modern agriculture founded on science. Generally speaking this means making production techniques scientific, mechanizing the tools of production, and socializing the organization of production.

First, making agriculture scientific. This is the wide application of agricultural production of all sorts of advanced scientific techniques. Agricultural science is a scientific system that is strongly all encompassing and very broad in scope. It includes various aspects upward to astronomy, downward to geology, and sideways to biological and human activities. Steady development of agricultural science makes agricultural production steadily rise to new levels. For example, in the field of genetic breeding the use of hybrid heteroses to breed short stemmed, lodging resistant and disease and insect pest resistance high yield varieties plays a tremendous role in increasing output. During the 1930's corn yields in the United States were 200 jin per mu, but beginning in 1936 hybrid corn varieties were universally extended to cultivation, and now yields average 950 jin per mu. The world's so-called green revolution has resulted primarily from the extension to cultivation of superior varieties of Mexican wheat and Philippine rice. Formerly neither of these countries was self-sufficient in grain, but with the extension to cultivation of fine varieties plus the use of irrigation and chemical fertilizer they have now become self-sufficient. In the realm of livestock, Danish lean pork long white hogs have one more set of ribs than common hogs, and Dutch Haisaikesi [phonetic] hybrid chickens can produce 260 eggs annually, each egg averaging a weight of more than 60 grams. Speed of growth of hybrid poplar trees is double that of common varieties. Today throughout the world chemical fertilizers are developing in the direction of concentration, complexity, slow release, and liquification. Emphasis is on comprehensive prevention and control of crop diseases and insect pests with the use of pesticides of high effectiveness, low toxicity, and low residualness to replace pesticides of low effectiveness, high toxicity, and high residualness. Only 1 gram per mu of a newly discovered Dalmation chrysanthemum fat need be used to remove insects. Herbicides are used for the elimination of weeds, and ways of avoiding plowing or doing little plowing are being used in farming to save one-third or more energy and to prevent erosion as well. These techniques are truly changing with each passing day.

Agricultural biology is now breeding a new technical revolution, principally in the several fields of photosynthesis, biological nitrogen fixation, and genetic engineering. For example in photosynthesis, right now the efficiency of most crops in using solar energy for photosynthesis is only 1 percent, and probably 2 to 3 percent for high yield crops. If the photosynthesis efficiency of plants could be raised 1 percent, agricultural outputs could be greatly increased. Another example is biological fixation of nitrogen. If rice and wheat were able to grow root nodules as soybeans do and fix nitrogen from the air, a large saving of nitrogenous fertilizer could be effected.

Second, mechanization. Mechanization has gone through a fairly long process in every country. The trend of development today is toward high horsepower for combined operations. The farm equipment pulled by a 100 horsepower tractor operated by a single person could complete furrowing, sowing of seeds, fertilization, and hoeing of weeds all at one time. Likewise the entire production process from field work and hauling to cleaning of grain, drying, storage, and processing are all mechanized.

A high degree of mechanization has also appeared in the mechanized raising of livestock and growing of crops. For example, in raising chickens, the feeding, watering, and clearing away of manure in chicken coops is all automatically controlled. One or two people can take care of more than 100,000 chickens.

Third, socialization of agriculture. From a basis of regionalization and specialized production, development has become a socialized and scientifically managed production system in which supply, production, and marketing are closely linked. The change is from a small but complete and self-sufficient natural economic traditional agriculture to a commodity economy of agricultural enterprises.

Socialization requires a process of formation. At the outset is a regionalization of production with the gradual formation, on the basis of local resources, soil, and climatic conditions, of locally concentrated production of certain major agricultural commodities. For example, in the American corn belt, wheat belt, and dairy cow and livestock belt, this process proceeded to specialized farms, with the formation of specialized chicken farms, cotton farms, and vegetable farms. After the 1950's further vocational specialization occurred. In agriculture, a large number of jobs are specialized such as the supply of seed being done by seed companies, hauling done by hauling companies, harvesting done by companies specialized in harvesting, and even the spraying of pesticides being done by special aircraft companies. The regionalization, specialization, and socialization of agriculture and the increasingly intensive scientific care are all products of the development to a certain stage of social productivity and a commodity economy. They play a tremendous role in equitable use of natural resources, the application of advanced science and technology, and in increasing benefits from production.

Scientificness, mechanication, and socialization are the three basic characteristics of modern agriculture. These three characteristics are mutually related and mutually advancing. What is their essential quality? Their essential quality is to found agriculture on modern science, to use modern science and technology and modern industry to equip agriculture, and to use modern economic science to manage agriculture. The goal is to create a high output, superior quality, low consumption farming, forestry, livestock raising, sideline occupation and fishery production system, and a fairly highly transformed and efficient agricultural ecological system that uses resources in a sensible manner and protects the environment in order to satisfy the needs of humanity.

It may be seen from the foregoing that agricultural modernization is a historical process of technical transformation and economic development whose ramifications are very broad and which is very strongly all encompassing. Thus, the modernization of agriculture is a comprehensive concept and a historical concept. It is also a relative concept. To speak of the modernization of agriculture in terms only of mechanization, of bringing all farmland under irrigation, and of electrification is, it is feared, too simple.

Because the national situation in each country differs, the road to modernization is also not entirely the same. There are more or less three kinds of roads to modernization in the world. One kind is that of countries with large amounts of land relative to population, with insufficient workforces and in which industry is very developed, such as the United States, Canada, Australia, and the USSR. The first step in their modernization of agriculture has been an emphasis on mechanization. Another kind of country is one such as Japan in which population is large relative to land, each person having only 7 fen of cultivated land. They emphasize biological and chemical techniques, use fine varieties and chemical fertilizers, and go in for the building of farmland. The third kind is found in some of the countries of western Europe such as France and Germany, which are industrially advanced and in which neither the amount of cultivated land nor workforces suffice. Consequently, they simultaneously develop both mechanization techniques and biological techniques. Actually, each country takes its own road to modernization on the basis of its own situation. It has its own emphasis, but it does not just do a single thing but rather coordinates techniques of all kinds for the gradual modernization of its agriculture.

Effectiveness of foreign agricultural modernization. First is a very great increase in labor productivity rate; second is a high commodity rate and high yields per unit of area. In addition, as a result of the development of production, the gap between city and countryside and the difference between industrial and agricultural earnings gradually narrows.

Problems in the modernization of agriculture abroad. Apart from the contradictions between capitalist private ownership and socialized production, and the disparaties between the poor and the rich, the main problem in agriculture itself is high energy consumption, high investment, and very great increase in costs. Furthermore, use of large amounts of chemical fertilizer and pesticides has brought about environmental pollution; irrational clearing of land and denudation of forests has also given rise to soil erosion and deterioration of the environment.

Many scholars believe that in future agriculture must turn toward greater reliance on science and biological techniques and strive for greater economic benefits rather than consume large amounts of energy and funds as has been done in the past.

Looked at in terms of development trends, the modernization of China's agriculture requires taking into account not only China itself but also taking account of the world. We cannot think only of our present; we must also think about our posterity. We must draw on the experience of others and learn from foreign experiences to avoid possible abuses.

Development of Agriculture Under the New Rural Situation Requires Reliance on Science

Development of agricultural production presently relies on policies and on science. Once agricultural production systems of responsibility have been substantially settled, the next step will be an emphasis on reliance on science. This is a change. Now that the situation in rural villages is good, peasants want science. In many places a mass fervor for the study and use of science has arisen. The building of China's agricultural production on a foundation of science is a first step in the gradual modernization of agriculture.

In proceeding from present day realities, agriculture's reliance on science requires emphasis on the following several tasks.

First is to do a good job of surveying agricultural resources and doing agricultural zoning, readjustment of the structure and patterns of agricultural production, and bringing a halt to the deterioration of the ecological environment. A good job has to be done in surveying natural resources such as soil, water, climate, and biology, and on socio-economic conditions followed by agricultural zoning and putting forward proposals about the production patterns of each area, of measures to increase output, and plans for development. Accumulated resources need to be inventoried and crop patterns properly laid out. This is a first step in agriculture's reliance on science; it is a basic task in the adaptation of general methods to local situations, in giving tailored guidance for production, and for gradually modernizing agriculture. Throughout the country 1,380 counties have begun zoning work, and 277 counties have turned in zoning reports. During the past few years, they have emphasized county zoning and surveys of soil and water resources as well as of key areas for development. The following have emerged through zoning requirements: first is the need to bring to a halt the destruction of resources and to put forward genuinely workable measures for their protection. Second is an equitable readjustment of the production structure and of crop patterns with development of economic diversification. Third is the need to come up with effective measures for increasing production right now; and fourth is to put forward proposals for long-range plans and a development scheme.

Second is to promote effective means of increasing production through adaptation of general methods to local situations. One way is with fine varieties. Fine varieties can usually increase yields by 10 percent. A system for breeding, reproducing, and promoting fine varieties should be established for the spread of existing fine varieties before 1985. Fine variety crop patterns should be regionalized, production should be specialized, processing should be mechanized and quality should be standardized. Another way is through scientific fertilization with the equitable readjustment of proportions of nitrogenous, phosphate and potash fertilizer. Currently probably 1 billion mu lacks phosphate and 300 million mu lacks potash. Were phosphate and potash production and imports to be increased and the methods of fertilizing improved, results obtained from fertilizer could be greatly improved. Another way is use of water. Most important is improvements in management for sensible use of water to take full advantage of existing water to increase output. A fourth way is plant protection. The make-up of pesticides has to be changed and farm machines for applying pesticides improved, with the spread of all encompassing measures for prevention and control. A fifty way is through research on techniques for farming, storage, processing, transporting, and marketing. with improvements being made on the basis of needs for development of production and economic diversification.

Third, serious attention must be given intelligent development of investment, and vigorous strengthening of agricultural education, scientific research and the extension of technology.

First a good job has to be done in agricultural education and training. First should be good running of existing agricultural schools. Second should be a good job of reforming primary school education. Rural middle and primary schools should increase their agricultural courses, some middle schools being converted to agricultural middle schools. Third should be a strengthening of cadre training, particularly leadership cadre training. In addition, outstanding middle age and young cadres should be selected to go to agricultural schools to improve their knowledge. Fourth should be a good job in peasant education with a good job done in county, commune, and production brigade peasant education.

Next is the need to readjust and augment agricultural research work. Today there is both a shortage of personnel, equipment, and funds for agricultural research and also duplication of courses and dispersal of forces. During the next few years, leaders should concentrate forces for readjustment and set a direction, tasks, and a cooperative division of labor for central government, provincial, and prefectural scientific research units, with the organization of attacks on key problems.

Still another need is to genuinely strengthen the work of spreading science and technology with emphasis going to the strengthening of county agricultural promotion forces. All jurisdictions should arrange, in order of priority, existing scientific and technical achievements, good experiences from other places, and technology used abroad and, on the basis of local needs, work up plans and do a solid job of promoting them little by little over a period of time. We also propose that each commune be able to gradually assemble three to five agricultural technicians who have graduated from higher or secondary technical schools to give intelligent assistance to communes and brigades on behalf of the country. Advocacy should be given the organization of technical service companies and peasant scientific farming societies to promote responsibility systems of technical contracting, and for energetic strengthening of publications, cinemas, broadcasts, exhibitions, and such activities for the popularization of science.

Fourth is energetic establishment of a huge red and expert agricultural science and technology cadre corps. It is hoped that leaders on all levels will attach serious importance to and do a good job with agricultural scientific and technical personnel, have confidence in them politically, give them support in their work, show concern for their livelihoods, and do a good job in evaluating, examining, and providing additional training for them as well as in returning agricultural technical cadres to their units. Last year Jiangsu Province made a planned evaluation of more than 10,000 of its commune farm science station and peasant technical personnel. More than 7,300 of them were found to meet secondary technical school standards as a result of testing, and they were issued certificates as well as a monthly technical stipend from the prefecture's public funds and from communes and brigades. This gave sudden impetus to rural science and technology work throughout Jiangsu Province, and rural youths felt this was something to strive for. This merits serious consideration by all jurisdictions.

9432
CSO: 4007/397

BRIEFS

SIDELINE PRODUCT PROCUREMENT--As of the end of December, 1981, 52.43 million dan of cotton had been procured nationally. This was a more than 4 million dan increase in quantity procured over 1980, and it is anticipated that an additional approximately 3 million dan remains to be procured. Jute and amberi hemp procurement already totals 10.38 million dan for a 30 percent overfulfillment of plan. Flue-cured tobacco procurement amounts to more than 23 million dan, a 36 percent overfulfillment of plan. Light and textile raw materials, such as ramie, sun-cured tobacco, wool, sheepskin and silkworm cocoons also overfulfilled procurement plans. National procurement of tea in 1981, amounting to 5.43 million dan, reached an all-time high. Apple procurement was 360,000 tons more than during 1980, and more than 70,000 tons of citrus fruit was procured over that in 1980. [Text] [Shanghai JIEFANG RIBAO in Chinese 19 Jan 82 p 3] 9432

LOAN RECOVERY--A dispatch from Beijing dated 18 January reports issuance of numerous agricultural loans during 1981 by rural financial units in China, and a high recovery rate, with extremely good results being won. Preliminary statistics from the Chinese Bank of Agriculture show that during 1981 the Bank of Agriculture and credit cooperatives together issued 30 billion yuan in agricultural loans, 27.2 billion yuan of which they recovered, for a recovery rate of 91, an all-time high. [Text] [Shanghai JIEFANT RIBAO in Chinese 19 Jan 82 p 3] 9432

CSO: 4007/256

BRIEFS

WHEAT HARVEST--As of 5 June, Xiaoxian County in Anhui had harvested all of its 900,000 mu wheat. [OW111211 Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Jun 82 OW]

CSO: 4007/434

BEIJING

BRIEFS

GRAIN MILLING SYMPOSIUM--Beijing, May 29 (XINHUA)--More than 100 foreign experts and 50 Chinese specialists are scheduled to attend an international symposium on grain milling and baking, according to the Ministry of Commerce. The symposium, jointly sponsored by the Chinese Ministry of Commerce and the Sosland Publishing Company of the U.S., will be held in the seaside summer resort of Beidaihe, east of Beijing, from September 2 to September 15. Topics for discussion at the symposium are: grain handling and preservation, train processing and flour milling, baked food production, and grain markets analysis. About 30 technical papers are expected to be submitted to the symposium and a technical exhibition will be held in conjunction with it. [Text] [OW291252 Beijing XINHUA in English 1228 GMT 29 May 82]

WATER PROJECTS--Beijing, May 29 (XINHUA)--Beijing has resumed construction on two major water diversion projects, part of the effort to ease the current water shortage resulting from sustained dry spells in the past two years, the Municipal Water Conservancy Bureau announced today. Construction on the projects began in 1970 but was discontinued later due to lack of funds. One of the projects being built in Yanqing County will divert an annual average of 100 million cubic meters of water from the Baihe River into the Guanting reservoir. The Guanting reservoir, which was built in the early 50's, is a major supplier of water for Beijing. Owing to the expansion of industry and agriculture and the dry weather, the amount of water stored in the reservoir is dwindling. The other project, now being build in Shunyi County, is expected to divert an annual average of 80 million cubic meters of water from the Chaobai River into Beijing's running water system, according to the bureau. It will mainly benefit the Beijing No 1 Heat and Power Plant, which consumes 250 million cubic meters of water a year. The plant will recycle the Chaobai River water to reduce its annual consumption from 250 million cubic meters to 50 million cubic meters. [Text] [OW291302 Beijing XINHUA in English 1234 GMT 29 May 82]

CSO: 4020/138

CONTROL OF PORK MARKET, BANNING OF MONOPOLIES EMPHASIZED

Fuzhou FUJIAN RIBAO in Chinese 10 Feb 82 p 2

[Commentary: "Banning 'Pig Monopolization'"]

[Text] The banning of "pig monopolization" by the people's government of Jianning County helps safeguard the policy of state purchases, stablize prices and protect the people's living standards. Jianning County has done the right thing and done it well. The control of the pork market by secondary dealers and its adverse effect on the fulfillment of purchase quotas was seen not only in Jianning County; there have been signs if it in other places as well. In some places, in fact, secondary dealers and pig monopolists are even more ruthless in slaughtering pigs and selling them at high prices, gravely interfering with purchase quotas and seriously affecting the stability of prices and the people's livelihood. We should give full attention to this matter.

Pigs are a class II commodity under the state plan and are an important food item for both the military and civilians. Party committees and governments at all levels should strengthen their leadership in this matter, educate the cadres and the masses to see the importance of the state and the state plan, and earnestly see to it that purchase quotas on pigs are fulfilled. In localities where purchase quotas have not been fulfilled, no one should be allowed to slaughter pigs and sell them on the market. Even in localities where purchase quotas have been fulfilled, only peasants should be allowed to slaughter their own pigs (or have others slaughter for them). No secondary dealers or speculators should be allowed to slaughter pigs and sell them at high prices. All violations must be punished. For pigs sold at negotiated prices by peasants who raised and slaughtered them themselves, government departments should prescribe a certain price range, and no one should be allowed to drive up prices. It has been shown in localities that have carried out these policies that not only have the purchase quotas on pigs been fulfilled well, but the market prices have also been stabilized. On the other hand, in localities where the leadership erroneously believes that the rural responsibility system of production has made it impossible to fulfill the purchase quotas on pigs, where the leadership is immobile, helpless and afraid to deal with the illegal slaughtering of pits and driving up of prices by secondary dealers and speculators, purchase quotas have been underfulfilled and market prices destabilized. It would be very dangerous to let this situation go on. All localities confronted with such a problem should follow the example of Jianning County and take vigorous steps to ban pig monopolization, regulate prices, and insure that purchase quotas on pigs are fulfilled.

9924
CSO: 4007/277

NANPING CITY SETS UP PIG PRODUCTION BASES

Fuzhou FUJIAN RIBAO in Chinese 10 Feb 82 p 2

[Article by Guo Xunan [6753 8113 2344], Hong Zhenya [3163 2182 0068] and Yang Bin [2799 2430]: "Greater Pig Supplies, More Stable Pork Prices, Commodity Pig Bases Prosper in Nanping City"]

[Text] The commodity pig bases in Nanping City have been flourishing. Last year, these bases supplied 12,763 pigs to the city, accounting for 47.5 percent of all pigs supplied to the city from units below. These bases have contributed to increasing meat supplies to the city and to stabilizing meat prices.

A few years back, pig-raising in the city was developing very slowly. Every year, despite strenuous efforts, purchase quotas in pigs were hard to fulfill. For 7 months in 1977, no pork was available at all on the market, and people were greatly dissatisfied. To change this, the municipal party committee decided in 1979 to set up six commodity pig bases in suburban communes and brigades, such as Dongkeng and Xiqin. With the support of the province, prefecture and city, 43 pig sties were built, plus six processing warehouses, and one small reservoir, and some 385 mu of farmland were set aside for growing feed. The bases are put under the leadership of the communes and brigades where they are located, and are managed by capable cadres and responsible commune members assigned by them. The city's food company has the right to allocate the pigs. With pig-raising as the main production, all six bases maintain a diversified economy, with sheep, poultry and fish raising, plus 580 mu of hill land planted in orange, persimmon, pear and other fruit trees.

In the very first year they were established, the bases showed their worth by providing more than 4,000 pigs to the city, which accounted for 20 percent of the pigs supplied to the city from lower units. But all the bases ran a deficit every year. This was because in the first 2 years a great deal of effort went into capital construction, people lacked experience in management, and the distribution system was such that the stockmen all "ate from the same pot of rice," which dampened work enthusiasm. Some stockmen went back to farm work in the brigades. Starting this year, however, a system of responsibility has been introduced in the bases, bringing about an immediate change. The system consists of such features as fixed jobs and work norms, remuneration on the basis of production, and rewards combined with penalties. Contracts are signed between the bases and the stockmen providing for fixed work, fixed remuneration, fixed feed, fixed rate of mortality, fixed expenditures and fixed rewards and penalties. As more work gets more rewards, work enthusiasm rises along with a sense of responsibility about one's job. Instead of running deficits, the bases have begun to make a profit.

The bases play a positive role in stabilizing pork supplies and pork prices in the market. For the National Day holiday last year, the city's food administration requisitioned only 26 pigs from the countryside but more than 1,200 pigs from these bases, which insured a full supply of fresh meat for urban consumers during the holiday. The consumers were satisfied. The city's food company has also set up two additional stores selling fresh meat at negotiated prices. The stores get 30-40 pigs every day from the bases so they can sell fresh meat every day. In addition to supplying fresh meat to restaurants, these stores help stabilize meat prices on the free markets.

9924
CSO: 4007/277

JIANNING COUNTY BANS PIG MONOPOLIES

Fuzhou FUJIAN RIBAO in Chinese 10 Feb 82 p 2

[Article by Jiang Jingzhang [3068 2417 4545], Jiang Changzhi [5592 7022 0237] and Wu Wenzheng [0702 2429 2973]: "Jianning People's Government Bans Pig Monopolies and Reinforces Market Regulation"]

[Text] Since the people's government of Jianning County took measures to reinforce market regulation and ban the "pig monopolies" in urban and rural markets, the number of pigs purchased by the state has increased and the price of pork has come down more than 20 percent.

To enliven its urban and rural markets, Jianning County allows commune members to put their pork on the free market after they have fulfilled the purchase quotas for pigs. But some pig dealers, having no licenses but aiming at exploiting the difference between fixed and negotiated prices, went all out to buy up commune members' pigs at high prices. They took advantage of the laxity of certain departments to monopolize the market and drive up the price of pork--from 1.30 yuan to 1.60 yuan, then to 1.80 yuan and even to 2.00 yuan per jin. The rise in pork prices drove up the price of other nonstaple foods, lowering the living standards and causing widespread resentment.

Pigs are a class II commodity important to military and civilian consumption and subject to purchase quotas. The leadership of the county people's government made a thorough investigation of the activities of the "pig monopolies" and decided that their monopoly of the pig market and control of pork prices must not be allowed to continue, the inertia and laxity of the leadership must be overcome, and effective countermeasures must be taken. A conference attended by leading members of commercial departments, industrial establishments, supply and marketing cooperatives, food supply depots and the communes was held to discuss ways to reinforce market regulation. Strong measures were adopted to ban all "pig monopolization" activities, allowing only commune members to market pork after they have fulfilled the purchase quotas. Since banning the "pig monopolization" activities, the number of pigs purchased increased sharply starting last November. By December, pigs purchased by the state and pigs supplied to higher level units exceeded quotas by 20 percent and 13 percent respectively. Market prices for pork went down from 1.60-1.80 yuan to 1.30-1.50 yuan per jin. The people were happy.

9924
CSO: 4007/277

BRIEFS

DIVERSIFIED ECONOMY--Fujian's Jiangle County promotes diversified economy by developing 2.95 million mu of the hilly land in the county. Since last winter, the county has expanded its economic forest with tea plants, tangerines and mulberry trees by 15,000 mu, bamboos by 30,000 mu and timber forest by 60,000 mu. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 10 Jun 82 OW]

CSO: 4007/434

BETTER RESULTS FROM FEEDING HOGS COMPOUND FEED REPORTED

Lanzhou GANSU RIBAO in Chinese 2 Feb 82 p 2

[Article from "Grain and Oil Situation," published by Provincial Food Department: "Jiuquan Prefecture Actively Launches Compound Feed Production and Test Feedings. A Major Measure in Rapid Development of Animal Husbandry and Livestock Raising Industry"]

[Text] Jiuquan Prefecture grain departments have actively launched compound feed production and test feedings with the cooperation and support of units concerned, winning rather good results that will be promoted throughout the prefecture.

Last year, in coordination with commercial, farm machine, scientific and technical, and commune and brigade enterprise management units, Jiuquan Prefecture grain departments built five compount feed processing plants in Anxi, Jinta and Jiuquan counties in accordance with the principle of smallness paramount, collective investment paramount, semi-mechanization paramount and renovation paramount. As of the end of 1981, one site had gone into formal production, another site was running trial production, and the three remaining sites were installing equipment and would rapidly begin trial production and full production. In order to launch feeding with and promotion of compound feeds, the prefecture planned 19 separate compound feed test feeding sites. As a result of the test feedings, 13 compound feed formulas suitable for local use were preliminarily selected.

Judging from results of test feedings, use of compound feeds to raise livestock possesses the following advantages:

(1) Improved feed utilization rate. Following test feedings using compound feeds, for each jin increase in hog weight, consumption of concentrated feeds declined from the former 5 jin to 3.7 jin, and consumption of coarse fodder declined from the former 9 jin to 0.7 jin. From the time that shoats were weaned 45 days following birth until they were taken out of inventory at a weight of 130 jin after having been fed compound feed, their total consumption of concentrated feed was 436 jin, a 178 jin reduction from previous feed consumption. Extrapolating this figure to the whole prefecture means that had the 110,700 head of hogs removed from inventory (the 1980 figure) been fed with compound feed, more than 19.7 million jin of grain could have been saved, or if this amount of grain had been used to make compound feed, an additional more than 45,000 fat hogs could have been raised. A saving of more than 19 million jin of coarse fodder could also have fed more than 13,000 head of cattle, or more than 32,000 head of sheep and goats.

(2) Shortening of feeding time. In 1980, the prefecture raised somewhat more than 233,600 hogs, but removed only 110,700 head from inventory, an inventory removal rate of 47 percent. Each hog was fed for a period of about 2 years. Concentrated test feedings with compound feeds greatly shortened feeding time. Shangsanfenba Brigade in Zhongdong Commune, Jinta County, selected six stiff hogs that had been kept in inventory for 4 or 5 years for test feeding with compound feed over a period of 63 days, each hog averaging a daily weight increase of 1.1 jin and their individual weight increasing from 86 jin to 153.1 jin. At Zhongjie Third Brigade, four 67-day-old shoats were trial fed for 224 days. Their weight increased from 12 jin to more than 130 jin. Four 60-day-old shoats at the county fine breed hog farm showed weight increase from 20.5 jin to more than 130 jin after 135 days of trial feeding, and were removed from inventory within 6.5 months. Figuring a year from the birth of shoats until removal from inventory of fattened hogs fed on compound feeds, the ex-inventory rate for hog raising in the prefecture could be almost doubled.

(3) Lowering of feeding costs. During the trial period when 60 head of hogs were fed compound feeds at two test sites, weight gain amounted to 5,313.7 jin. Figuring a cost of 0.60 yuan per each jin live weight, output value was 3,169.46 yuan. Total feed consumption was 22,906 jin, at a cost of 0.12 yuan per jin, for a total cost investment of 2,429.22 yuan. Profits amounted to 740.24 yuan, or an average profit of 12.34 yuan, or 23.4 percent per head. Shoats weaned at 45 days and fed for removal from inventory upon reaching 130 jin consumed compound feed at an average of 436 jin per head. Figuring each jin at 0.12 yuan, costs amounted to 52.32 yuan per head. When fed with simple feed, consumption averaged 614 jin per head for costs totaling 73.68 yuan per head, or 21.36 yuan higher than the cost of feeding with compound feed.

Now the Jiuquan Prefecture units concerned are in the process of summarizing these experiences are are making appropriate material preparations. The prefecture has also trained 78 mainstay technicians, and are in the process of planning directed promotion throughout the prefecture as a whole.

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'NANFANG RIBAO' DISCUSSES HAINAN AGRICULTURE

HK070943 Guangzhou NANFANG RIBAO in Chinese 2 Jun 82 p 2

[Article by Hou Xueyu [0186 1331 3558]: "Correctly Handle a Number of Relationship Problems in Building Great Agriculture on Hainan Island"]

[Text] Editor's note: Professor Hou Xueyu, member of the scientific council of the Chinese Academy of Sciences and a famous ecologist, wrote this article for this newspaper after he participated in the scientific comprehensive survey of the building of great agriculture and ecological balance on Hainan Island. Excerpts from that article will be published in this paper in over 2 days. [end editor's note]

Great agriculture includes plant production and animal production. Animals cannot produce food themselves. They live directly or indirectly on plants. Therefore, animal production constitutes the process of transforming plant products into such animal products as meat, eggs, milk, skin, hair and feathers. So great agriculture itself is a transformation process between matter and energy. To promote the ever-increasing biological production output and bring about a benign cycle in the natural world, it is necessary, in the light of certain ecological laws, to adopt scientific technical measures which are in conformity with science. That is, it is necessary to continually maintain the ecological balance between matter and energy exchange in the production process so that planting industries, forestry, economic forestry, animal husbandry and equatic product rearing can develop. Otherwise, disrupting ecological balance will invite a series of penalties from the natural world. For this reason, in order to build great agriculture, it is necessary to maintain an ecological balance in a regular and sustained way so as to ensure and increase the output of biological resources and their productive forces. This is the required basic point of view in accelerating the development of agriculture, forestry, animal husbandry, tropical crops and fishery on Hainan Island.

Below I would like to emphatically discuss my ideas on a number of problems in interrelationships in building great agriculture on Hainan Island.

1. Correctly Handle the Relationship Between Exploitation and Protection in Utilizing Biological Resources

In the natural rain forest and seasonal rain forest on Hainan Island, there is a lot of valuable timber, such as mu seng [2605 3932], zi jing [1311 0079], hua li [5363 2746], jiang xiang Tan [7100 7449 7806 2905], green plum, po lei [0980 1093], mesua ferrea, Hainan cephalotaxus drupacea, litchi and lujun pine. In the forests there are still many ornamental flowers and plants, such as orchidaceous plants and medicinal plants, chun sha ren [2504 3097 0088], yi zhi [4135 2535] and devilpepper as well as calamus rotan and white rattan which are used to weave rattan article furniture. After the destruction of forests, these shade-demanding and hygrophilous industrial plants are simply unable to grow. Birds, such as green pigeons, parrots, quails, partridges, gallus bankivas, crows and magpies, turtledoves, creasted mynas, woodpeckers and babblers, are numerous on Hainan Island. They all have the forest as their home. The felling of forest trees has made it difficult for birds to multiply and live and has resulted in a drastic decrease in the number of all kinds of tropical birds. At the same time, such activities as looking for food, mating, multiplying and living, of the tree-dwelling gibbons and macaque primates are all carried out in trees. Once the tropical rain forests disappear, these tree-dwelling mammals as well as moles and giant squirrels will find nowhere to live. As the saying goes: "When the tree falls, the monkeys scatter." Therefore, protecting the natural rain forest on Hainan Island means protecting the plant resources beneath the forest and the valuable animals and other reserves in the forest. Last November, I went to Australia to attend the 13th session of the international society of botany. Of the 13 proposals put forth by the assembly, 3 were proposals concerning the protection and study of tropical rain forest. China has only a meagre area of tropical rain forest which, is distributed on Hainan Island and Xishuangbanna [in Yannan] and this calls for special and good protection.

The mangroves on Hainan Island are also very valuable. In the mid 1950's, China still had 150,000 mu of mangroves, but now it has been reduced to only 20,000 or 30,000 mu. The mangroves are distributed on the mud beaches in the intertidal zone and exist both in rivers and streams. Fishes, shrimps and crabs dwell in these mangroves. The crowing cover of that part of the mangrove above ground is luxuriant and green while under the ground there are close and numerous prop roots, snakelike roots and hardened roots which crisscross and are twisted. This is conducive to keeping stormy waves in check and protecting the enclosed embankments. People call the mangrove the "natural bodybuard of the seacoast." Thus, protecting the mangroves means protecting fishery, agriculture and the diversified economy.

While surveying along the coast, and particularly in such places as Wanning, Wenchang and Qionghai, we say people carrying coral lime in trucks. It was to be used as building material. It was really a pity. Coral is where eucheuma grows and from the latter can be extracted agar-agar. Agar-agar is the raw material for making medical capsules and sugarcoating and agar-agar can also be used to cure high blood pressure and as a tonic. Sea cucumbers and fish also eat the algae living on coral. Burning coral to make lime means burning eucheuma, agar-agar, fish and sea cucumbers.

The above-mentioned natural forests in mountainous areas, mangroves along the seacoast and coastal coral are, on the one hand, themselves biological resources and also constitute the environment on which a series of animals and plants depend for existence. Therefore, we must not only rationally utilize but also protect them in a fairly good way. The argument claiming that protecting nature means "conservative thinking" and "naturalism" is obviously wrong. By protecting the natural biological resources, we mean protecting the capacity of resources to regenerate. Protection is a measure and utilization is the aim. Protection is aimed at better exploitation and utilization. Without protection, you can hardly talk about the permanent and continuous use of biological resources. We must not exploit the biological resources in a plundering way at the expense of long-term interests.

2. Correctly Handle the Intensive Farming and Extensive Cultivation in Increasing Grain Production

At present, although there are large areas of wasteland on Hainan Island, much wasteland and many barren hills are unsuited to developing grain crops because the soil fertility is poor; the gradient of the mountainous areas is great and water conservancy projects are underdeveloped. We must draw a lesson from the past experience in blindly expanding the area of farmland sown with grain crops. By exploiting mountainous areas with the slash-burn-and-abandon process, the per mu yield of "mountain products" was no more than 100 jin. The exploitation of mountainous areas with the slash-burn-and-abandon process resulted in the destruction of large areas of forests and serious soil erosion. Most of the flat tablelands are covered with sandy soil which is deficient in water and can hold neither water nor manure. Production output can hardly be ensured by planting grain crops on such soil.

Is it feasible to increase the number of multiple croppings? According to the present investigation of the five southern areas, the annual per mu yield of triple cropping of rice was only 500 jin, which was lower than that of double cropping of rice. The reasons for this state of affairs were mainly that the seasons were harsh and labor power was insufficient; the insect pest situation in midseason rice was serious; late rice precisely encountered the typhoon and low temperatures; the soil fertility was insufficient and so on. Proceeding from actual conditions, the most reliable way is still to carry out the cropping system of cultivating the land while farming it, that is to say, to practice the system of rotating and reversing paddy and nonirrigated-farmland industrial crops.

Take Chongpo commune of Ledong County for example. In 1980 the commune farmed 50,000 mu of early rice and total output was 13.1 million jin; in 1981, 4,500 mu of farmland was used to plant sugarcane and 500 mu for growing peanuts and fertilized water was concentrated on paddy fields. As a result, despite a reduction of 5,000 mu in the area sown with early rice, the total early rice output registered an additional increase of 2.15 million jin. In the very same year, the area sown with late rice was reduced by 5,000 mu but the total late rice output increased by 1.25 million jin. Some of the late-rice farmland was sown with peanuts. The total annual sums showed that the per mu yield of early and late rice increased from 764 jin to 1,022 jin; the increase in the total paddy output was 3.4 million jin and in addition, 17,000 tons of sugarcane and 320,000 tons of peanuts were reaped.

Why were there increases in both the per unit area yield and total output of paddy despite a reduction in the acreage of farmland sown with paddy? According to our analysis, first, in the past, peanuts and sugarcane were driven to hillslopes thus resulting in low yield. The production did not even cover costs. Now substituting peanuts and sugarcane in paddy fields has improved the production conditions and regulated the labor force. Each mu of sugarcane only needs 25 laborers while each mu of two-crop paddy needs 50 laborers. Sugarcane can be planted before the transplanting of early rice seedlings and thus the freed labor force can be concentrated on winding up the sowing of early rice before and after the beginning of spring. Thus we can keep clear of the outbreak period of yellow rice borers on the one hand and on the other finish harvesting early rice before the rainy season comes so as to prevent early rice from going mouldy and rotten. Second, spring drought on Hainan Island is relatively serious. After some of the paddy fields were planted with sugarcane and peanuts, the use of water was economized and thus the conserved water could be concentrated on early rice. Third, rotating paddy and dry-land crops helped regulate the paddy field soil conditions, such as moisture, fertilizer, air and heat, made the soil become aerated and prevented the emergence of reducing materials which are harmful to paddy roots. Peanut root-nodule bacteria can, in addition, fix and turn free nitrogen in the air into nitrogen fertilizer and peanut roots can be left in the fields as manure.

Another key problem in increasing grain production is Hainan Island is neutralizing its soil acidity. Apart from a small number of areas, most of the areas of the whole island have strongly acidic soils. This is detrimental to the growth of grain crops. It is advisable to neutralize the soil acidity by applying more limestone powder to the soil. This not only can provide the soil with nutrients, such as calcium and magnesium, increase the effectiveness of existing nutrients, improve the soil structure and increase the air permeability of the soil but can also slowly dissolve the manganese and aluminum poisons existing in acid soils, and particularly can be conducive to the multiplication of nitrifying bacteria and symbiotic and nonsymbiotic azotobacteria. Limestone can be found within the boundaries of Dan, Yan and Ledong counties. We can grind limestone to powder and directly apply limestone powder to farmland. It is not necessary to burn limestone into lime.

Besides, the improvements in water conservancy and in product varieties, we must not neglect the mixed application of nitrogen, phosphorits and potassium fertilizers and organic fertilizers or green manure and the prevention and control of plant diseases and elimination of pests.

3. Correctly Handle the Relationship Between Rubber and Other Tropical Crops in Developing Tropical Crops

Hainan Island has more than 70 years of history in introducing and cultivating fine varieties of rubber. Before liberation, China had no more than 40,000 mu of rubber with the annual dry rubber output being 600 tons. After liberation, rubber production was developed on a large scale. At present Hainan Island already has over 4.3 million mu of rubber plantation with the annual dry rubber output being 70,000 tons. All this is a significantly great contribution to the country.

At present, one important way to increase rubber output is to increase the per area unit yield on the basis of the existing acreage under cultivation. In this respect, the South China Tropical Crops College and the South China Research Institute have achieved a series of research findings. They adopted such measures as the terracing of mountain slopes, plant covering, [word indistinct] improving, application of fertilizers, the building of forest networks and the turning of seedling plants into budding plants. So long as the popularization of these measures are upheld, it is entirely possible to increase the present per mu yield of 50 kilograms of dry rubber of the state farms to over 100 kilograms. The natural environment of Dan County where the college and research institute are located belongs to a region which frequently suffers from "moderate gales and light cold currents." Their experimental plots have produced more than 200 kilograms per mu. If the farms in the southern areas of the island which have relatively favorable climatic conditions try hard to reach half of the output of the experimental findings of the "college and research institute," that is, the level of 100 kilograms per mu, this will mean that these farms have increased their production by 100 percent. This is the equivalent of expanding the acreage under cultivation by 100 percent.

While increasing the per area unit yield of rubber, an important strategic principle for bringing the strong points of Hainan Island into play is to develop, in the light of the natural characteristics of the various localities, other tropical crops in a planned way in the regions which are unsuitable for planting rubber. Coconuts are a traditional crop of Hainan Island. Cocunuts have many uses and every part of the coconut is useful. They can adjust to various kinds of soils. They can grow very well in the seashore saline soil which are not suited to growing other crops. Furthermore, an ordinary force 3 or 4 wind will not affect its growth, development of bearing of fruit and its output will not be greatly affected by a force 7 or 8 wind. Coconuts can be developed along the coast of the whole island. The areas with low elevation along the coast within Nansi County are the most suitable places for developing coconut production.

Betel has not always been one of the important cultivated crude drugs from South China. The masses in the various southern counties [word indistinct] betel nut as a habit. At present our country has to import 50,000 dan of betel nut from southeast Asian countries every year. In order to meet domestic demands, developing betel nut production in a planned way in the mountain valleys and gullies, on the riverbanks and lands scattered around the fields of the central mountainous areas with an elevation under 300 meters should be a task not to be ignored for Hainan Island.

Hainan Island has a history of 50 years in planting cashews, which is one of the world-famous dry fruits. Their growth is restricted by temperature factors in a most rigid way but they are resistant to aridity and wind. On the other hand, too much rain will be harmful to its blooming and its bearing of fruit. As far as the other crops are concerned, the soil fertility of the sandy soil along the southern seashore is insufficient. However, cashews can normally grow and bear frult there. Therefore, cashews do not vie with other tropical crops for land. Cashew production can be vigorously popularized in the tableland in the southeastern areas of the island where the dry season is obvious, sunlight is abundant, warmth is rich and the typhoons are relatively rare.

Temperature does not constitute a restricting factor for the planting of robusta coffee in Hainan island. The growth of robusta coffee needs a shady and wet habitat in which rainfall is fairly well-distributed. Robusta coffee can be popularized in the eastern areas where shady forest trees grow thickly. Pepper has great economic value. Generally speaking, the per mu output value of pepper is 2,000 to 3,000 yuan. It needs calm and tranquil surroundings. So it is relatively suitable to cultivate pepper within the eastern and southern shelter forest network where rainfall is relatively abundant. In the early 1960's, oil palm was substantially developed in Hainan Island but generally speaking it resulted in failure. However, in 1975 the Tenera variety was introduced from abroad and the 1979 per mu yield of oil palm was 230 kilograms. Tenera is expected to be developed in southern areas of the island as the "king of oils." Yet more time is needed for further experiment before it is popularized. Large-leaved tea was introduced here from Yunnan Province in the 1960's. It is mainly distributed in the southeast and central-south farms which are not suited to planting rubber. When planting tea, some farms use rubber trees as shade trees. It is better to replace rubber trees with leguminous Taiwan acacia. The reasons for this are that 1. Taiwan acacia is so strongly wind-resistant that it cannot be broken by a typhoon; 2. The root tubers of leguminous plants can fix nitrogen; 3. Grown together, rubber and tea may possibly vie with each other for fertilizers; and 4. Rubber trees on Hainan Island have powdery mildew which need to be treated with farm chemicals which can easily bring pesticide pollution to tea trees and affect export quality. Sugarcane is one of the most economically valuable crops and grows on Hainan Island all the year round. But at present its per area unit yield is too low and there is still enormous potential for increasing its output.

Hainan Island must devote herculean efforts to encourage the development of traditional tropical fruits, such as pineapples, litchis, bananas, longans and mangoes. In the eastern hilly areas with arid red soil, it is advisable to establish a production and processing base which gives priority to pineapples. It is also advisable to intercrop pineapples in rubber, coconut and betel palm plantations so as to utilize the weaknesses to foster the strong points. Hainan Island is one of the original homes of litchis. Qiongshan County, in particular, has always been a major litchi producing area. Great efforts should be exerted to revive litchi production there. Bananas on Hainan Island can, in winter, still grow and bear fruit as usual. Apart from bananas which can be separately cultivated in places close to the villages and the "five-sides" land which have relatively favorable water resources, it is also foreseen that bananas and paddy can be rotated. Hainan Island must become a national banana exporting base. Hainan Island is one of the major mango producing areas. Mangoes can grow very well in the sandy land along the coast of the southwestern areas of the island where rainfall is scarce and the winter-spring dry season is fairly long. Hainan Island has natural conditions very favorable for growing watermelons in winter. It is also close to Hong Kong and Macao and is in a position to export watermelons in the off seasons and thus earn more foreign currency.

CSO: 4007/433

BRIEFS

FLOODING IN SHANTOU PREFECTURE--Heavy rain fell in Shantou Prefecture from 28 May to 2 June. Huilai, Haifeng and Lufeng counties which are in the western coastal area have received more than 400 mm of rainfall, and Haifeng in particular received 520 mm. In other counties, some 100 to 200 mm of rainfall were recorded. Throughout the prefecture, some 400,000 mu of fields were flooded. In Huilai County where the losses caused by the disaster were serious, more than 24,000 people in 19 villages were stranded by the floodwaters, 219 houses collapsed and some 90,000 mu of ricefields were flooded. After the disaster, the Shantou Prefectural CCP Committee and the county CCP committees of the flooded areas immediately sent work teams to help settle the masses in the disaster-stricken areas, help them drain waterlogged areas, salvage flooded crops, and repair fences and breaches. [Text] [HK040645 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 3 Jun 82]

BEAN CROPS HARVEST--Guangdong Province has reaped a bumper harvest of bean crops in this year's spring harvest. According to the statistics of departments concerned, this year's wheat harvest increased by 9.9 percent, the harvest of dry-land crops increased by 6 percent, and the bean harvest increased by 20 percent. In Shantou Prefecture, some 840,000 mu of wheat was cultivated last year, showing an increase of 160,000 mu over that of the preceding year. Due to improvement of management and the fact that fine seed strains have been used, the average production per mu amounted to 255 jin and the total output increased by 32 percent. In Zhanjiang Prefecture, some 280,000 mu of beans were grown last year, showing an increase of 60,000 mu over that of the preceding year. The total harvest was 32 million jin, showing an increase of 18 percent over that of the preceding year. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 16 May 82 HK]

TRICHOGRAMMA RESEARCH--Guangzhou, Jun (no day) (XINHUA)--China's achievements in using trichogramma research to eliminate other agricultural parasites won attention at the first international symposium on this subject in France, said Li Liying, vice president of the Institute of Entomology under the Guangdong Academy of Sciences, who has recently returned from the symposium. China is one of the countries which have the greatest trichogramma-using areas in the world. Since the early 1950s, it has been using trichogramma to kill the sugarcane borer, pine caterpillar, corn borer, cotton bollworm and rice grassleaf roller and has built a network for the popularization of the science. Li Liying said China has reached the world advanced level in Trichogramma culture in vitro and China's achievements in trichogramma classification, physiology and ecology were praised at the symposium. Li Liying was elected a council member of the International Committee of Trichogramma Research at the meeting at which she and Gao Yiguang, another participant from the biology department of Wuhan University reported on trichogramma research and utilization and its culture in vitro in China. The meeting also proposed that the second international symposium be held in China in 1986. [Text] [OW070750 Beijing XINHUA in English 0728 GMT 7 Jun 82]

CSO: 4020/138

BRIEFS

RICE CIRCULAR--Guangxi Regional People's Government issued a circular on 12 May on making early and good arrangements for late-rice production. The circular said: Stabilizing the sown area of late rice is an important condition for increasing production. After making readjustments over the past years, the sown area of late rice was reduced to 1,955 mu last year, showing a decrease of 10.5 percent over that of 1977. Besides stabilizing the cultivated area, it is also necessary to pay attention to nursing young plants and promoting sowing techniques. In conclusion, the circular said: In order to seriously implement the various policies, all areas must strengthen leadership over agricultural production and farming techniques. [Nanning Guangxi Regional Service in Mandarin 1100 GMT 14 May 82 HK]

CSO: 4007/433

PEASANTS URGED TO GROW COTTON DESPITE DROUGHT CONDITIONS

Bumper Harvest Planned

Shijiazhuang HEBEI RIBAO in Chinese 15 Apr 82 p 1

[Article: "Triumph Over Serious Drought for Timely Completion of Cotton Planting Tasks"]

[Text] This is a year for further readjustment of the national economy. Hebei Province has diligently put into effect a program of "positively no slackening in grain production while actively developing economic diversification," and "taking the planned economy as primary, and regulation by market mechanism as secondary to continue to readjust agricultural crop patterns." While maintaining the grain acreage virtually stable and assuring increases in grain output, an expansion in the province's cotton growing area to 11 million mu has been planned for a total output of 6.07 million dan of ginned cotton. This possesses extremely important strategic significance for making the most of the province's natural economic advantages, for increasing peasant income and national wealth, and for enlivening the agricultural economy as well as the entire national economy. All jurisdictions are to assure quality and quantity in accordance with planting plans handed down by the state, and they should not delay fulfillment of planting tasks in order to lay a foundation for winning a bumper cotton harvest this year.

A conspicuous problem confronting us in completion of this year's cotton planting tasks is the serious drought. Statistics from all prefectures show that only 5.75 million of the 11 million mu cottonfield area can be watered or maintain watering. For most of the remainder in will be necessary to combat drought by dibbling in seeds. Consequently, it is necessary to make combat against drought a key link in planting cotton. All jurisdictions should devote further attention to doing a good job of maintaining irrigation facilities and equipping pump wells, fully tap the potential of existing water conservancy facilities, use water in a planned way, conserve use of water, strive to enlarge the cottonfield area that can be irrigated, and use every available means to plant on time, and to assure a full stand of seedlings after planting.

A good job of combat against drought to plant cotton requires the further bringing into play of production responsibility systems and arousal of the enthusiasm of the brad masses of cotton growing peasants. Those who have not yet signed contract agreements should devote strict attention to signing them. The signing of contract agreements should place under centralized control all large farm machines and implements, major water conservancy facilities and crucial planting techniques and measures that should be placed under centralized control, and contract all that should be contracted so that cotton growing peasants can devote themselves to fighting the drought and planting free from anxiety. Right now it is particularly important that responsibility systems be put in place for pump wells in order to make fullest use of the role of pump wells in fighting drought and planting. Those households that have difficulties in combating drought and planting following the practice of a responsibility system of "double contracting" [a system of fixing output quotas based on households and a system of peasant households assuming full responsibility for task completion], should be helped by production teams so that they plant sufficiently and well the cottonfields for which they have contracted.

Simultaneously with the fight against drought it is also necessary to strengthen technical guidance. Most of this year's increase in cottonfields in the province has been in Heilonggang Prefecture, where quite a few communes and brigades lack skills in growing cotton. This situation requires all the more that leadership organizations at all levels enlarge the number of agricultural technicians, go down into grassroots communes and brigades, and launch more extensive technical guidance and technical instruction work. For the province as a whole, the following several points should be given prominence in providing technical guidance for planting: First is the need for diligent summary of experiences and adaptation of general methods to local situations in setting the time for planting so that it is neither too early nor too late, so that work is begun early, so that quick action is taken at the right time, and so that vigorous efforts are made to get "seedlings in April." Second, a considerable portion of the large quantity of cotton varieties introduced from outisde the province this year contain seeds with diseases, so all jurisdictions should diligently perform seed selection, sun the seeds, and treat them chemically. Third, this year's area for combat against drought and planting is large, and once planting is done, it will have to be tended at once, every row and every field being inspected. Where soil moisture conditions are good, compacting of the soil should be done to increase soil moisture. Where soil moisture is low or poor, timely action should be taken to enhance soil moisture, to promote early sprouting from the soil of cotton seedlings and full stands of cotton.

CCP committees and governments at all levels in cotton growing regions should make the fight against drought to complete cotton planting their main current task, and give diligent attention to doing it well. All old hands and less experienced hands in major cotton growing counties and communes should personally take charge. Leaders at all levels should lead large numbers of cadres into the front lines of cotton production for practical study and solution to real difficulties existing in the combat against drought to plant cotton. Where problems exist for grassroots leadership teams, energetic cadres must be dispateched at once to help solve them, and to genuinely energize the broad masses of grassroots cadres and masses of commune members.

Cotton offices at all levels should do organization and coordination work under the direct leadership of CCP committees and governments and make the most of the functional role of units concerned, to do a genuinely good job of supplying diesel oil, machine oil, rural electricity, chemical fertilizer, and pesticides, and release of down payment funds toward the purchase of cotton to assure smooth performance of the task of fighting drought to plant cotton.

Pointers Given on Planting

Shijiazhuang HEBEI RIBAO in Chinese 15 Apr 82 p 1

[Article: "Concentrate Forces To Triumph Over Hardships for Timely and Sufficient Cotton Planting"]

[Text] The time for cotton planting is now at hand. In order to assure both quantity and quality and fulfill the province's 11 million mu cotton sowing task on time, comrades in charge at the Provincial Cotton Office recently made the following remarks to the correspondent.

Preparations for sowing have been very good. Ninety-six percent of the province's cotton growing production teams have set up various forms of responsibility systems linking remuneration to output, and among the broad masses of cotton growing peasants desire to grow cotton is very high. The 11 million mu cotton growing task assigned the province by the state has been applied to specific fields, for most of which contracts have been signed. Preparations for the planting of cottonfields centering on the fight against drought got underway earlier than in previous years and were done more quickly. Four million mu have already been irrigated. Sufficient quantities of seeds have been made ready, and supplies of crude fertilizer, phosphate fertilizer, pesticides, and superior varieties are greater than in previous years. Additionally, training has been given all levels of leadership cadres and technicians numbering more than 2.5 million people. All this has been done by way of laying down a material foundation for prompt planting. However, this year's drought situation is particularly serious and water resources are extremely inadequate. There are numerous new cotton growing areas and planting tasks are great. Numerous cotton varieties have been introduced, so possibilities for transmitting diseases are extremely great. In addition, the work of preparing for planting has not been done evenly, and many difficulties still exist in planting. Consequently if cotton sowing tasks are to be completed so as to assure both quality and quantity, it will be necessary to make arduous efforts. Currently the following several points should be given diligent attention.

1. Use of every available means to combat drought for planting. Almost half of the dryland cottonfields in the province are dry all the way down to the plow pan, and moisture content of soil in the cultivated layer of cottonfields is 6 to 7 percent, while soil moisture requirements for sprouting and cotton seedling growth are above 14 percent. Very clearly, unless the moisture of an overwhelming majority of cottonfields is increased it will not be possible to plant them. Therefore, perseverance in resistance to drought must be

central in this year's cotton planting. Pump well maintenance must be quickly taken in hand and wells should be fully equipped so as to be able fully to tap existing water conservancy facilities, using every available means to enlarge the area that can be irrigated to provide soil moisture. Where water resources do not suffice, the method of digging high yield ditches and high yield pits has to be adopted, water pooled for use, and water use conserved. Places lacking water conservancy must devote strenuous efforts to the hauling by water on vehicles and on poles carried by people, and to combat drought by dibbling seeds. Experiences in digging large pits, irrigating sufficiently and putting numerous plants in a single hole should be promoted to assure full stands and density. In addition, special emphasis should go to conservation of moisture, to reducing moisture evaporation insofar as possible, and to achieving genuinely sufficient soil moisture for planting. On carefully leveled soil where soil moisture conditions permit, machine sowing of cottonfields should be promoted. When seeds are sown with a hand drill, a large hoe should be used to compact the soil after planting to preserve soil moisture. When soil moisture conditions are not good or where water is carried on poles for the dibbling of seeds, general methods should be adapted to local situations in the use of enclosing [0545 0545] after sowing, planting with water and enclosing, or planting in mounds. The drier the soil, the greater the need to assure planting quality, guarding against planting too deeply and smothering the seeds, or too shallowly causing them to dry out.

2. Diligent seed treatment. Emphasis should be placed on grain by grain selection of seeds, and seeds should be sunned continuously for 34 hours to increase the germination rate and to disinfect them. Before sowing, germination rate testing should be done, and the seeds should be soaked in chemicals. When seeds are planted fairly early, it is not necessary to hasten germination, but when planted fairly late, the seeds should be made to germinate slightly before planting. Particularly noteworthy is the extremely great possibility that the large quantities of Lumina No 1 cotton seeds brought in from Shandong may contain fusarium yellows disease germs. All jurisdictions should arouse a high degree of serious attention to this problem, and disinfecting should be done by either production teams or production brigades. Plant protection technique units at all levels must do a good job of teaching and giving guidance in quarantine and seed treatment techniques. In order to prevent and control diseases and insect pests, great efforts should be made to promote the soaking and mixing of seeds for sulfate delinting, and in 402, carbendaxol, furadantin, and 3911 pesticides to assure the cotton's safe growth.

3. Timely planting. Experience has shown that the best time for planting cotton in Hebei Province is during the last 10 days of April. A folk saying goes, "Around the time of the grain rains (20 April), plant cotton and beans." In general, when the soil to a depth of 5 centimeters remains at above 14 degrees, or when saline-alkaline soil remains at above 16 degrees, a concerted effort should be made to plant. In the major cotton growing areas of the south central part of the province, efforts should be made to finish sowing of cotton by the end of April. In the north, in seriously saline and alkaline cottonfields, and where combat against drought must be done, cotton

planting should also be finished by early May. In order to assure a full stand of cotton, care should be taken to grow some reserve seedlings for transplanting to spaces where seedlings do not come up. Some seeds should also be made ready for use in growing seedlings that are lacking. In addition, all jurisdictions should adapt general methods to local situations to use the new plastic mulch and seedling transplanting techniques.

4. Seed fields should be planted in sufficient quantities and well to produce seeds for next year's cotton production. All jurisdictions should set aside a seed field acreage to meet next year's cotton planting needs, and select fine variety seeds. Seed corps, specialized seed growing people or seed growing households should be designated and contracts signed for assured outputs and for a good job in sowing and tending sown fields. Disease free land should be selected for seed fields; fine varieties should be selected; and production and management conditions should be superior.

5. A good job of technical guidance. Agricultural technicians at all levels should go into the front lines of cotton production, devote attention to work in all areas by drawing upon experiences gained in key points, and disseminate planting techniques to the myriad households. At the same time, systems of responsibility linked to output for technical cadres should be perfected with all possible speed, and the role of 1,000 mu cotton growing brigades and 10,000 mu cotton growing commune demonstration sites brought into full play.

6. Leadership of cotton growing should be strengthened. Leaders at all levels in cotton growing areas should plant cotton on time in sufficient amounts and well, and devote strict attention to this as a key task in current agricultural production. Cadres at all levels should use the method of level by level dividing up of assignments, and put into effect systems of personal responsibility for leadership cadres. They should go down to the grassroots to investigate and study to solve real problems, to promote advanced experiences, to devote strict attention to the implementation of measures, to promote work in all areas by drawing on experiences in key points, and to promote cotton planting work. Technical units are to be organized to work on technical difficulties that arise in cotton planting. Supply and marketing, farm machinery, water and electricity, finance and trade departments concerned should actively coordinate and energetically help each other to do a good job of material supply, of pooling the wisdom and efforts of everyone, and in victoriously completing the task of fighting drought to plant cotton.

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BRIEFS

AGRICULTURAL DEVELOPMENT SEMINAR--The Henan Provincial Agricultural Society, Water Conservation Society, Forestry Society and 14 other academic organizations held a seminar on speeding up agricultural development in Henan from 17 to 22 May. Some 198 people attended the seminar and 178 theses were submitted to the seminar. The seminar mainly discussed ecological improvement, exploitation and utilization of natural resources, comprehensive development of agriculture, forestry, animal husbandry, sideline production and fishery and other major issues. Han Jiangcao, secretary of the provincial CCP committee and vice governor; Cui Guanghua, vice governor; (Luo Gan), vice chairman of the Standing Committee of the provincial people's congress attended the seminar and gave speeches. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 25 May 82 HK]

WATER POLLUTION--A water supply project for 20,000 people has gone into operation in (Xiaoyu) commune in Gong County in recenty days. The peasants said: "The serious water pollution has been completely solved, thanks to the direct concern of chairman Hu Yaobang and party and government leaders at all levels." In recent years some 30 factories producing items such as chemicals, metals and paper have started operations in the vicinity of this commune, seriously polluting underground water. This situation was reported to the departments concerned, but was never solved. "Later, peasant representatives of the commune wrote a joint letter to Comrade Hu Yaobang. On receiving this letter, Comrade Hu Yaobang immediately issued an instruction ordering the principal responsible comrades of the Henan Provincial CCP Committee to deal with the matter personally. The leading comrades of the provincial party and government attached great importance to this. Vice Governor Yue Xiaoxia and general office secretary-general (Guo Tan) personally set to work to solve the problem. Provincial economics committee director (Li Ying) received representatives of the commune. (Li Qiaoting) and (Wang Tianzhao), leading comrades of the provincial environmental protection office, went to observe the pollution on four occasions." After consultations with all parties, the factories responsible for the pollution paid 800,000 yuan in compensation to build a water supply project for the peasants. The local factories also provided the equipment for the project. [HK070534 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 6 Jun 82]

AUTUMN GRAIN MEETING--On 3 and 4 June, the Henan Provincial Agriculture Department held an urgent meeting in Zhengzhou on the production of autumn grain. The meeting analyzed the situation of the production of autumn grain in the province, implemented the tasks of the production of autumn grain and worked out measures to strive for a bumper autumn harvest. The meeting called on people in the province to do well in the production of autumn grain. All places must eliminate the idea of attachimg more importance to summer grain and less to autumn grain. In accordance with the principle of the CCP Central Committee on not relaxing the grasping of grain production and on actively carrying out diversification, all places must strive to increase the production of autumn grain. [HK100935 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 6 Jun 82 HK]

CSO: 4007/434

BRIEFS

ENTERPRISES READJUSTED--The Hubei Provincial People's Government recently approved the report of the provincial people's commune enterprise administrative bureau on readjusting the commune and brigade enterprises. The report of the provincial people's commune enterprise administrative bureau pointed out: The province's commune and brigade enterprises have been developing fast since the 3d Plenary Session of the 11th CCP Central Committee. However, management is still poor and production costs are still too high in some commune and brigade enterprises. Therefore, it is necessary to readjust the commune and brigade enterprises. The crux is to readjust the financial system, perfect the economic responsiblity system and improve the economic returns. The Hubei Provincial People's Government has urged people's governments at all levels to include this task in their daily agenda and do a good job of grasping it. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 21 May 82 HK]

CSO: 4007/433

BRIEFS

FORESTRY CONFERENCE HELD--The Hunan Provincial CCP Committee and the provincial government recently held a conference on forestry to look into the issue of how to fully exploit and utilize the mountainous land. The conference demanded that all places do well from start to finish in fixing rights of forests, fixing private forests and fixing the forestry production responsibility system, resolutely prohibit indiscriminate lumbering and protect the existing forests. Attending were responsible comrades of the provincial CCP committee, the provincial government and the provincial people's congress Standing Committee, including Wan Da, Sun Guozhi, Wang Zhiguo, Dong Zhiwen, Zhang Wenguang and Qi Shouliang; responsible comrades of all prefectures and municipalities who are in charge of forestry; and forestry bureau directors. Zhang Pinghua also attended and spoke. The conference stressed that fixing rights of forests, fixing private forests and fixing the forestry production responsibility system are a fundamental measure for developing forestry. At present, more than half the production teams throughout the province have completed this work. Around the season for crash-reaping and crash-sowing, all places must concentrate their forces on this work to ensure the completion of this work before reaping late rice. [HK010347 Changsha Hunan Provincial Service in Mandarin 2310 GMT 28 May 82 HK]

CSO: 4007/433

JIANGSU STATE FARMS SET SOME ALL TIME HIGH RECORDS

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 1, 1982 p 4

[Article by Propaganda Department, Jiangsu Provincial State Farm and Land Reclamation Bureau: "Every Farm and Plant in the Jiangsu Provincial State Farm and Land Reclamation System Increases Output and Profits by Relying on Policies and Science To Pick Up Speed in the Midst of Readjustment"]

[Text] In 1981 the Jiangsu State Farm and Land Reclamation System surmounted natural disasters including spring drought, autumn floods, typhoons, and rainy, overcast weather to win an all-around bumper agricultural harvest, and continued growth of industrial production. Despite a 400,000 mu reduction in the grain growing area, output totaled 400.42 million jin to exceed the bumper harvest of 1980. Ginned cotton output totaled 310,000 dan, a 40 percent increase over the previous year; and profits amounted to 60 million yuan for a net surplus of 45 million yuan, a 30 percent increase over the previous year. Total grain and cotton output, gross output value of industry and agriculture, and economic profits exceeded the all time highs. Each of the sytem's 32 farms and forests, and industrial transportation enterprises belonging to 14 bureaus, showed profits for an "all around victory" for the bureau as a whole. This was also an all time first for the Jiangsu State Farm and Land Reclamation System.

Last year the Jiangsu State Farm and Land Reclamation System continued to carry out a program of readjustment in which it guaranteed fulfillment and overfulfillment of grain production plans while at the same time expanding by 60,000 mu the growing of cotton and other economic crops, and actively developed economic diversification. Output value from farm operated industries and economic diversification increased by more than 20 percent over the previous year, and accounted for 60 percent of farm gross output value for an initial change in the unitary economic structure of state owned farms. In the midst of readjustment, industrial development speed reached 19 percent, and the light and textile industries accounted for 90 percent of total industrial output value. In 1981 business profits increased 46 percent over the previous year.

More than 98 percent of the company-size farming, forestry, livestock raising, and sideline occupation units in the Jiangsu State Farm and Land Reclamation

System adapted general methods to local situations to put into effect various forms of a system of production responsibility including those linking remuneration to output, and specialized contracting, with rather equitable handling of economic benefits for the state, enterprises, and individuals. They vigorously launched scientific farming, established and perfected farm science organizations at various levels, actively promoted various techniques for increasing yields, equitably arranged crop patterns, linked nurture and use of the soil, did rotational cropping, and purged alkalinity from the soil to improve it. They conducted a soil survey throughout the system's 1.13 million mu of cultivated land and its 200,000 mu of wasteland to provide accurate and reliable data for scientific farming. Taking account of different soil conditions, 410,000 mu was planted to green manure during the winter and summer of 1981; stalks and stems were returned to field on 450,000 mu, and more than 10,000 tons of phosphate fertilizer was used. Fine varieties of major crops such as wheat, barley, naked barley, paddy rice, cotton, and soybeans were put into use, and chemical herbicides and aerial spraying to control pests was done on areas totaling 550,000 mu and 500,000 mu respectively. Throughout the system, overall mechanization for crops of all kinds reached more than 70 percent, including a 94.4 percent mechanization of wheat, barley and naked barley production. This gave vigorous impetus to development of scientific farming and greatly increased labor productivity rates.

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FOREST FARMS--Jiangsu Province has made rapid progress in building state forest farms. The number of farms has increased from 5 to 66, with the total forest acreage reaching 1.4 million mu and timber reserves 1.3 million cubic meters. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 23 May 82 OW]

FISH BREEDING BASES--Jiangsu Province has made progress in building fish breeding bases and renovating fish ponds. As of now, the province has built over 25,000 mu of new fish breeding bases and renovated 67,000 mu of fish ponds in the rural areas. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 25 May 82 OW]

GRAIN PRODUCTION--Xuzhou prefecture in Jiangsu has taken timely measures to promote production of autumn-harvested crops. So far, the prefecture has prepared seedlings for 3 million mu paddy rice and 2 million mu sweet potatoes and has cultivated 800,000 mu green manure. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 6 Jun 82 OW]

WHEAT HARVEST--Guannan County in Jiangsu has reaped a bumper harvest from its 420,000 mu wheat fields with a total output of 160 million jin, nearly 60 percent more than last year and more than 10 percent over the previous record figure. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 10 Jun 82 OW]

CSO: 4007/434

GENERAL UPWARD TREND IN OUTPUTS REPORTED

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 1, 1982 p 4

[Article: "Last Year Nei Monggol's Agricultural and Livestock Farms Had Good Yields"]

[Text] In 1981, the Nei Monggol Autonomous Region's agricultural and livestock farms brought in fairly good yields. A comparison of 1981 with the year before shows a 9.8 percent increase in grain output, a 5.9 percent increase in commodity grain, a 76.5 percent increase in edible oil output, a 4.5 percent increase in the rate of livestock increase, an 18.9 percent increase in milk output, a 5.3 percent increase in gross output value of industry and agriculture, and a 30 percent decline in net loss figures.

Reasons for the fairly good yields from Nei Monggol's agricultural and livestock farms were, first, further implementation of the party's economic policies, institution of production responsibility systems for gradual change in the situation of eating out of a "large common pot," and rather high enthusiasm on the part of the mass of staff and workers. Second was an increased level of scientific farming and scientific livestock raising. All units devoted attention to key measures of major significance for increasing yields and increasing earnings in their own area and in their own units. Most of the major farm crops on farms belonging to the Hailaer Farm Administration, for example, were sown during the period for high yields, and comprehensive measures were taken to eliminate weeds to reduce damage to the harvest, which produced a good harvest. Some agricultural and livestock farms also increased capital construction of grasslands and devoted efforts to livestock propagation and survival, thereby increasing the total rate of livestock increase. Third was continued surmounting of the single kind of farming, single kind of planting, and single kind of livestock raising mentality, with some measures being taken to develop economic diversification and to widen sources of wealth, which also won some preliminary success.

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OIL-BEARING CROPS--Sowing of oil-bearing crops has been completed in Nei Monggol Autonomous Region. The region cultivated 7.69 million mu of oil-bearing crops, an increase of 450,000 mu--6.2 percent--over 1981. [SK052209 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 4 Jun 82 SK]

NEWBORN ANIMALS--Abag Banner and Linhe County, Nei Monggol Autonomous Region, have scored remarkable achievements in delivering and protecting newborn animals. According to statistics compiled on 20 May, the banner has over 145,000 head of newborn livestocks born by its some 144,000 head of female animals. The county scored a 23,000 increase in newborn livestock over the 1981 figure. The county's survival rate of newborn animals is 96 percent. It has 100,000 head of newborn livestocks. [SK070635 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Jun 82 SK]

REGION'S WHEATFIELDS--Field management is in full swing in Nei Monggol Region. This year the region sowed 13 million mu of wheat, and all of them have come up out of the ground. Over 80 percent of wheat seedlings are second grade. The region is making preparations for wheatfield management. By the end of May, 8.13 million mu of wheatfields were hoed, 4.61 million mu were irrigated and 2.85 million mu were applied with chemical fertilizer. [SK070624 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 6 Jun 82 SK]

MARSH GAS PITS--In the past few years, Nei Monggol Region has constructed over 5,000 marsh gas pits. This year the regional agricultural commission has appropriated 450,000 yuan of special funds to develop the following projects: 1) Support Xingan, Jirem, Ju Ud, Ulanqab and Ih Ju Leagues to build 3,000 marsh-gas generating pits. 2) Sponsor a regional marsh gas training class in Aohan Banner. 3) Build on trial basis a new energy resources village in a brigade in Helin County. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 6 Jun 82 SK]

CSO: 4007/434

SHAANXI

LOESSLAND WATER, SOIL CONSERVATION FARMING TECHNIQUES OUTLINED

Xi'an SHAANXI RIBAO in Chinese 16 Mar 82 p 2

[Article: "Water and Soil Conservation Farming Method. Little Investment, Quick Results, Great Increases in Yields and Easily Spread. Shaanxi Province Water Conservation Technicians Propose Adaptation of General Methods to Specific Situations for General Spread Throughout Loess Highlands"]

> [Text] Editor's Note: This proposal from Comrades Guo and Zhang has great economic value and merits the serious attention of leaders at all levels in all places, particularly in the loess highland region. In addition, their spirit of initiative in fulfilling responsibility as "staff officers" for the four modernizations, and providing views as a "brain trust" merit even greater recommendation.

Recently two technicians at the Provincial Water and Soil Conservation Bureau, Guo Zhixian [6753 1807 6343] and Zhang Liming [1728 0448 6900], wrote an article proposing the adaptation of general methods to specific situations in the loess highlands for the promotion of water and soil conservation farming methods.

In the article they said that the strip fields and the trough fields in the area north of the Wei, the furrow and ridge, and horizontal furrow farming as well as intercropping, rotation of grass and field crops, and planting of swaths of grass between fields in northern Shaanxi were all a part of water and soil conservation farming methods (also called water and soil conservation farming measures). Their main advantages are: ability to reduce soil erosion, helping to conserve soil and water. Water and soil conservation farming methods can transform the minor features of slope faces and increase the slope face's roughness so that water and soil are retained in place. Horizontal ditches in mountain areas are really contour farming, the ditches and ridges intercepting runoff and reducing erosion, conserving soil, water and fertility. Experiments conducted by the Shuide and other water conservation stations under the Huang He Water Conservancy Commission show that when the slope is as small as under 20 degrees, in a situation of ordinary downpours runoff from horizontally ridged mountainlands is about 80 percent less than from smooth cultivated land, and erosion is about 90 percent less. Once a native slope has been changed into an area of ridged fields, surface water and soil erosion can be reduced by 84 to 99 percent and runoff reduced by 70 to

98 percent. In the Huang He basin of Shaanxi Province, cultivated land on slopes amounts to 35 million mu with a population of somewhat more than 16 million. Figuring on the basis of the situation in Zichang, Ganquan and Ansai counties in northern Shaanxi, where one person farms 1 mu, this region could be expanded to 16 million mu. Estimating a benefit of 10 cubic meters of runoff retention and the holding back of 4 tons of silt per mu per year, runoff would be anually reduced by 160 million cubic meters, and erosion would be reduced by 64 million tons, which is 8 percent of the amount of silt dumped into the Huang He by Shaanxi Province. Second, when water and soil conservation farming methods are used, planting can be done and benefits derived in the same year as the work is done. A look at experiments performed in some areas shows that after ridging of fields has been done on slope faces with an angle of less than 20 degrees, corn yields increased by an average of 16 to 20 percent, gaoliang yields increased by an average of 10 percent or so, and potato yields increased by an average of about 18 percent. According to a survey done at 22 production teams in 11 communes in the hill ravine area of northern Shaanxi, use of the Chuanyuan ridge and ditch planting method produced corn yield increases of more than 220 jin per mu as compared with the old planting method, i.e., a yield increase of 64 percent. Mountainland horizontal furrow planting of millet increased yields by 153 jin per mu, i.e., a yield increase of 1.4 times. Potato yields increased by 760 jin per mu, i.e., a yield increase of 80.5 percent. For other crops, including wheat, soybeans and broom corn millet, yield increases ranged from 50 to 100 jin per mu. If each person in northern Shaanxi were able to plant 1 mu and each mu produced an increased yield of 50 jin, the total increase in output would be 180 million jin. Third, the water and soil conservation farming method can save on investment and is suited to extension over wide areas. It is through the use of "indigenous" methods that the water and soil conservation farming method scores. It does not require large amounts of investment nor does it require concentration of large workforces or the use of specially manufactured farm implements. Places having the conditions can do machine farming or they can use animal power. Even in fairly distant mountain regions where work teams are small or in places practicing the linking of output to individual households or fixing output quotas on a household basis, it can be extended. It fits in with the present restructuring of the agricultural production system, and it can better put into effect various forms of rural production responsibility systems. An example was in Yan'an Municipality, which has a total of 456 production brigades. Though three-fourths of them were located in fairly out-of-the-way ravines, nevertheless, inasmuch as water conservation methods required little investment, showed quick results and resulted in high yields, they were very much welcomed by the masses and every household in every village joined in. Beginning in 1977, the method was extended for a period of 3 years, and by 1980 was being practiced on 265,000 mu, each person farming an average of 1.7 mu of land for grain output that totaled 105 million jin, in 1978 rising to 130 million jin. Fourth, the system is able to make the most of soil fertility and set up the conditions for scientific farming. Not only does it hold back mud and retain water, conserving both soil and water, but it makes fullest use of soil fertility and lends itself to all-around application of the "Eight-point Charter for Agriculture," [soil improvement, rational application of fertilizer, water conservancy, improved seed strains, rational close planting, plant protection, field management and improvement of farm implements]. This farming system creates production conditions of relatively stable fertility for crops. For example, the furrow and ridge farming method has

broken up the rigid plowpan layer, deepened the cultivated layer, improved the sponginess of the soil, created large numbers of "micro-reservoirs" for crops to help protect seeldings, help their root development, help superior varieties realize their potential for increased yields, and help make full use of natural resources, such as water, heat, light and air. In addition, this farming method can give impetus to the development of farm mechanization. For example, use in the construction of furrows in a change from hand digging of trenches to tractor-drawn single-share plows, to tractor-drawn three row furrow-digging machines; in the sowing of seeds in a change from hand sowing to use of single-legged drills and animal-drawn twin-row planting machines; in the turning over and compacting of soil in a change from shoveling and hoeing to digging and rolling machines; in cultivation from hand-hoeing and deep digging to the use of animal-powered cultivators, etc.

Finally the article said that the loess highland area of Shaanxi Province that has yet to be brought under control is very great, and it will not be possible in the short term to carry out high speed capital construction of a substantial amount of farmland. In this situation, water and soil conservation farming methods have a lot of room for application. Therefore, they proposed the adaptation of general methods to local situations for the promotion of water and soil conservation farming methods in the loess highlands.

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MORE EFFECTIVE LAND UTILIZATION IN NORTHERN SHAANXI REPORTED

Xi'an SHAANXI RIBAO in Chinese 16 Mar 82 pp 1, 3

[Article originally printed in NONGCUN GONGZUO TONGXIN [RURAL WORK BULLETIN]: "Carry Forward the Yan'an Spirit for Better Building of North Shaanxi Old Liberated Areas"]

[Excerpts] Yan'an and the Shaanxi-Gansu-Ningxia border area used to be the location of the CCP Central Committee and the main base of the Chinese people's liberation struggle. The great contribution that this area made to the Chinese revolution is world-renowned. The economic poverty and backwardness of this region is also a matter of general knowledge to all. How is the building of the old north Shaanxi liberated areas going today? How are the people of north Shaanxi living? These are matters about which the people of the entire country, and particularly old comrades who have lived and fought in north Shaanxi, are extremely concerned. The reply of the people of north Shaanxi to these questions is as follows: Since the 3rd Plenary Session [of the 11th Party Central Committee], as a result of the "correct line, suitable policies, and the people pulling together," and as a result of further improvements made in agricultural production conditions on a foundation of former construction done over a long period of time, agricultural production has won all-around bumper harvests for 3 consecutive years.

The Third Plenary Session was a great historical turn in the course of events. Beginning in 1979 agricultural production had three consecutive bumper harvests in northern Shaanxi's old liberated areas despite natural disasters, including drought, floods, insect pests and hailstones. In Yan'an Prefecture, 1979's grain output totaled 916 million jin, a 7.7 percent increase over 1978; in 1980, it was 1,406,000,000 jin, a 14.2 percent increase over 1979; and in 1981 summer grain output totaled 170 million jin, an 18 percent increase over 1979. Despite reduced output in the fall resulting from disasters, output for the year as a whole still totaled 950 million jin. In Yulin Prefecture, the 1979 grain output totaled 1,317,000,000 jin, a 7.13 percent increase over 1978. In 1980, despite the effects of natural disasters, output still totaled 1,233,000,000 jin. In 1981, output totaled 1.35 billion jin, an all-time high. Average amount of grain per capita was 800 jin in Yan'an Prefecture, and more than 700 jin in Yulin Prefecture. A considerable number of communes and brigades realized a "farming of three and a surplus of one." The masses eagerly sold their surplus grain to the state. In Yan'an Prefecture alone, last year households making sales of 10,000 jin in excess of quotas numbered 60. All-around development also occurred in forestry, livestock raising, and sideline occupations. Commune member economic income increased many times over. In Yan'an Prefecture, commune member per capita income averaged only 50 or 60 yuan in 1978, but amounted to 165 yuan in 1981. Some 100,000 peasant households repaid debts of many years standing. Since 1979, Yulin Prefecture commune member per capita income has averaged annual incremental increases of 35 percent, amounting to 150 yuan in 1981. The amount of rural savings deposits has increased each year, and the purchasing power of the masses has greatly increased.

How has it been possible for such large changes to have taken place within the short space of 3 years in the old liberated areas of Shaanxi Province?

First of all, the line, programs and policies in the wake of the Third Plenary Session have been a decisive factor. In addition, implementation of the 16 articles for liberalization of rural policies promulgated by the Shaanxi Provincial CCP Committee encouraged and supported commune members in the broadening of production avenues, development of the planting and aquatic products breeding industries, the plaiting industry, and such collective economically diversified and household sideline industries. Expansion of private plots and allocation of private firewood mountains, private forests and grasslands and deserts stimulated country market trade and enlivened the rural economy. The fairly early and fairly rapid development of agricultural production responsibility systems suited to local circumstances was particularly responsible for overcoming the bad practice of "eating out of a large common pot" that had long existed, and of directly linking the peasants' labor to the amount of compensation they should receive, thereby actively arousing enthusiasm for both collective operations by production teams and free operations by individual commune members. It revived and carried forward the Yan'an spirit of self-reliance and arduous struggle, and vigorously promoted development of a build-up of production.

Second was a program for the building of agricultural production suited to actual conditions prevailing in northern Shaanxi. In 1979, the Shaanxi Provincial CCP Committee summarized both positive and negative experiences to formulate a program for the building of agricultural production in northern Shaanxi, which was "simultaneous development of farming, forestry, and livestock raising, gradual changing of widespread farming for scant harvests to reduced farming for high yields and greater harvests; and while striving to realize self-sufficiency with some surplus in grain, to gradually build forestry and livestock industry bases."

In the change from sole emphasis on grain production to simultaneous development of farming, forestry and livestock raising, and in the change from widespread farming for scant harvests to reduced farming for high yields and greater harvests, during the past 3 years an area of more than 5.9 million mu has been newly forested, and more than 4 million mu of grasslands planted. This has gradually readjusted the proportional relationships within agriculture so that farming, forestry and livestock raising are organically linked, each playing its own role, one advancing the other to provide a definite foundation for restoring the ecological balance and assuring all-around development of farming, forestry and the livestock industry.

Third is active launching of agricultural science and technology work. Everywhere in northern Shaanxi, party and government leaders have assiduously put into effect the party's policies for intellectuals, and have intensified establishment of agricultural science and technology organizations and technical training work. They have readjusted crop patterns, adapting general methods to local situations to increase the proportions of broom corn millet, wheat, rice and pulse crops. They have bred and extended to cultivation fine varieties of hybrid corn, potatoes, millet and gaoliang; and they have reformed backward farming systems and growing methods. They have taken account of the aridity and low soil fertility that characterize northern Shaanxi to summarize and promote horizontal furrow planting methods; and ridge and furrow planting methods on riverlands, plains and flatlands; riverland wetland intercropping methods; and dryland plains area oil-bearing crops, pulses and grass fertile field methods. In places practicing the aforementioned "four methods" of farming fields, average yields per mu increased by between 50 and 150 percent over the customary former cultivation methods. In Yulin Prefecture, promotion of seedling propagation and transplanting techniques using plastic sheeting doubled average yields per mu as compared with the direct sowing of rice. In the leveling of fields for afforestation, aerial sowing for afforestation and the planting of grass, the mechanization of plant protection, and the introduction and propagation of superior varieties of domestic livestock and poultry as well, remarkable results were obtained. The introduction of fine-wool sheep, in particular, opened a new set of circumstances for the livestock industry of northern Shaanxi.

Fourth was fairly equitable use of special funds for the building of old liberated areas. Since 1979, we have applied the special funds that the Central Committee has annually allocated for construction of old liberated areas in northern Shaanxi mostly to support poor communes and brigades in changing basic agricultural production conditions, and in improving the livelihood of the masses. Management methods have also been formulated, and management organizations have been set up or specific persons assigned responsibility to assure that the special funds are used for special purposes. At the same time, state support has been combined with carrying forward the spirit of self-reliance to encourage common development by collectives and individuals; engineering methods have been combined with biological measures, the special funds for the construction of northern Shaanxi thereby playing an important role in changing poverty and hardship. During the past 3 years, both Yan'an and Yulin prefectures have done 600,000 mu of new capital construction of farmland, restructured and upgraded 500,000 mu, built 23 new reservoirs, 110 irrigation ditches and 805 pumping stations. Yan'an and Yulin prefectures plus Chunhua, Dianyi and Lin counties have erected 2,700 kilometers of electric power lines to solve problems in the use of electricity for five counties that had been without electricity. The electrically irrigated area has been increased by 170,000 mu.

The land area in use in the old liberated areas of Shaanxi Province amounts to 110 million mu, an average of 26 mu per capita. Land presently used for farming, for forests, and for grasslands amounts to one-half the land area in use.

In the future, the task of building production in northern Shaanxi must follow the principles of both providing the masses with sufficient clothing and food and carrying out modernized economic and cultural development, both promoting steady increases in agricultural production and gradually raising the standard of living of the masses, both broadening avenues of production, increasing collecting accumulations and commune members' economic income, and increasing and expanding reproduction capacity with the building of forestry and livestock industry bases with all possible speed while correspondingly developing industrial production.

We plan, first of all, to achieve the "1, 9, 8, 5" struggle objectives that Comrade Hu Yaobang has proposed to the people of Shaanxi. This means the realization by 1985 or a little longer of 1 large livestock animal, 9 mu of forests or grassland, 800 jin of grain and 5 sheep or goats per capita.

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CSO: 4007/387

SHANDONG

TECHNIQUE FOR INCREASING SINGLE-CROP COTTON PRODUCTION

Jinan DAZHONG RIBAO in Chinese 2 Apr 82 p 2

[Article by Shandong Academy of Agriculture: "The Cultivation of Seedlings in Nursery Pots Is the Key Technique for Increasing Single-crop Cotton Production"]

[Text] The technique of cultivating cotton seedlings in nursery pots is a key technique to increase the single-crop cotton production and the quality of the fiber. Whether in coastal and the cotton producing eastern part of the province where the frost-free period is relatively short and where early spring temperature warms up slowly, or in the cotton producing areas in the southwestern part of the province where the frost-free period is relatively long and warm temperatures return rather early in spring, whether the soil is rich in saline-alkali or whether it is clayey ground or sandy and loam, the adoption of this technique has resulted in increased cotton production, early maturity and better quality. This phenomenon of increased production and early maturity is particularly noticeable in clayey soil, and sandy loam and massif areas where cotton seedlings emerge late. However, this technique for increasing cotton production had not been widely adopted for a long period of time. It was not until the 3d Plenary Session of the 11th Party Central Committee when the enthusiasm of the cotton farmers to learn and to adopt scientific methods was unprecedentedly raised that the technique of cultivating seedlings in nursery pots achieved greater development. In 1981, cotton fields that have adopted the method of cultivating and transplanting potted seedlings reached 1.2 million mu throughout the province and cotton production generally increased by 20 percent. The economic benefit of transplanting cotton was also higher than that of cotton directly planted onto the field. It is, therefore, of paramount importance to promote the technique of cultivating potted seedlings in nurseries so as to achieve bumper cotton harvest to meet the need to stabilize the acreage of cotton fields and to increase single-crop as well as the total cotton output.

Why is the technique of cultivating seedlings in nurseries and transplanting them a key to increasing single-crop production? The chief reasons are as follows:

(1) The growth of cotton is not limited to fixed periods. However, due to the brief frost-free period in the cotton producing areas in our province, the flowering period for cotton planted directly onto the field usually begins around 15 July and lasts for only about 60 days. This puts a limit on the

amount of cotton production. As for transplanted cotton seedlings, the earlier they are planted, the sooner they emerge. Generally, the flowering period, which comes at the end of June and early July, may be extended for about 10 days so that the number of early cotton bolls and the total number of cotton bolls per plant is dramatically increased, usually by about 15 percent before frost sets in. At this time, because a large portion of the cotton bolls in our province grows during the period when temperature, humidity and light illumination are most suitable for cotton growth and cultivation, the weight of the cotton bolls is in general heavier (an increase of about 0.15 gram per boll), the fiber matures well and the quality better.

(2) Cultivation of cotton seedlings in nursery pots also ensures even emergence of seedlings. Usually the low temperatures and dry weather in the spring in the cotton producing areas in our province, cause a rather large portion of the seedlings directly planted onto the field to emerge unevenly, especially on clayey soil and soil that is rich in saline-alkali where there is a predominant absence and uneven growth of cotton seedlings. This irregular degree of growth affects the yield of cotton production. By cultivating seedlings in nursery pots before transplanting them, it is possible to ensure their healthy growth because the pot soil is rich in nutrient, and the seedbed provides adequate temperature and moisture. Besides, at the time of transplanting, one can weed out the weak and unhealthy seedlings, enabling a healthy and even growth of the seedlings. By the time these seedlings are transplanted, the stems are already ligninized, more alkali tolerant and adverse effect resistant, sustaining a higher rate of survival, and ensuring an even growth of the entire shoots and cotton seedling. Furthermore, at the time of transplant, these seedlings can be easily planted in equal distance thereby ensuring a balanced nutritive area per plant, which is conducive to an even growth of each plant in between individual spaces. This also helps achieve a balanced increase in production.

(3) The technique of transplanting potted seedlings ensures strong shoots and steady growth. The breaking of the tap root at the time of transplant stimulates the growth of lateral roots, increases the number of roots in the cultivated layer, strengthens the plant's ability to absorb nutrients, thus promoting a healthy growth of the cotton plants. Furthermore, the transplanting of pot-cultivated seedlings can be transplanted earlier than the direct sowing, moving ahead the growing period by about 15 days. The earlier germination of the seedlings and the relatively low temperature prevailing in the early stage of development ensures their steady and healthy growth. Experiments bear out the fact that the height of the first fruiting branch of transplanted cotton plants is generally more than one centimeter lower than that of cotton plants directly planted onto the field. The length of the main stem is reduced by about half a centimeter in average while the height of the plant is reduced by about 5 centimeters presenting a more compact shape. In general, those cotton plants in our province that are transplanted from seedlings before the arrival of the rainy season yield more bolls per plant than those directly planted onto the field. Because of the even distribution of nutrition in the cotton plant, the amount of nutrition that reaches the reproductive organ is correspondingly larger than the amount that goes to the growing point of the plant, thereby restraining the plant's excessive growth, which easily happens in a season when both rain and heat occur simultaneously. By postponing the chance of excessive growth from happening, and by increasing the level of

photosynthesis, the shedding of cotton squares and bolls would be reduced, thus increasing the budding in the middle and lower parts of the cotton plant.

Experiences inthe transplanting of potted seedlings dictate that we should have a firm grasp of the following questions in techniques:

(1) Quality of nursery pots and proper management of seedbeds. The potting soil must be rich to promote the healthy growth of the seedlings. Generally, mellow soil, mixed with 20 percent of quality decomposed barnyard manure should be used. The pots should be of the proper size. If the pots are too large, the usage rate of seedbed is reduced. If they are too small, the seedlings would not grow well. As a rule, the pots should be 6 centimeters in diameter and between 8 to 10 centimeters in height. The most important requirement in the management of seedbeds is to maintain a proper temperature. Before potting, the seedbeds should be well watered. The seeds should be carefully selected and soaked. The film for mulching should not be removed from the time the seeds are planted to the time when they begin to sprout. The seedbeds should be kept at a moderately high temperature to promote sprouting. After sprouting, care should be taken to remove the film and to cull the seedlings. The temperature of the seedbeds should be maintained at about 25°C.

(2) Superior transplanting methods. Superior methods of transplanting seedlings shortens the period of their controlled growth, a key to ensuring healthy growth, early maturation and high yield. Proper transplanting requires first, that it be undertaken at the proper time. Generally, it is around the end of April when the temperature is between 17 and 18°C steady. Second, transplanting requires delicate and careful handling that damage to the roots can be reduced to the minimum. Large and small seedlings should be separately transplanted. The seedlings should be planted at a proper depth, because if it is too deep, the temperature of the oil would be too low while if it is to shallow the pots would easily dry up hindering the sprouting. Third, thoroughly water the "settling water" to completely wet the potting soil so that it could be well mixed in with the soil in the large field later. However, if it is too early to transplant, overwatering would lower the temperature of the soil and prolong the time to revive the seedlings. Fourth, focusing on fertilization. Before transplanting, bacterial manure or chemical fertilizers may be applied to promote sprouting. Fifth, the soil should be loosened between the plants and between the rows of plants to raise the temperature of the soil.

(3) Strengthening post-transplanting management. Cotton plants transplanted from nursery pots develop earlier and have shallower roots, are more susceptible to lodging and premature wilting. For this reason, advance attention must be paid to transplanted, as opposed to directly planted cotton plants, especially during the intermediate growing period. During this intermediate cropping period, fertilizer and water must be properly controlled to prevent premature wilting. The work of preparing the soil and drainage must be done in advance to prevent lodging and rotting. The rotted bolls must be culled and disposed of promptly.

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BRIEFS

CORN BORER PEST--This year a large number of corn borers will probably emerge in Shandong Province. Various localities should quickly adopt prevention measures to ensure the safety of cornfields. Since the temperatures in the past winter-spring period were higher, there are 30 to 50 percent more corn borers in the province than usual. [SK040732 Jinan Shandong Provincial Service in Mandarin 2300 GMT 3 Jun 82 SK]

CSO: 4007/433

BRIEFS

SUMMER AGRICULTURAL PRODUCTION--Summer agricultural production is in full swing in Shanghai's suburban areas. By 21 May, more than 470,000 mu of barley has been harvested and 250,000 mu of early rice and 200,000 mu of cotton transplanted. Field management for the remaining 500,000 mu of cotton has been intensified. [Shanghai City Service in Mandarin 1130 GMT 22 May 82 OW]

CSO: 4007/433

DRYLAND FARMING TECHNIQUES PROPOSED

Taiyuan SHANXI RIBAO in Chinese 5 Feb 82 p 1

[Article by Liu Bosheng [0491 0130 3932]: "Need for North China Region to Take Organic Dryland Crop Route. Zhang Qinwen [1728 3084 2429] Makes This New Proposal, Which Receives Serious Attention of Provincial and National Units Concerned"]

[Text] In North China, and particularly in a place like Shanxi in which "9 out of 10 years are dry," as a strategic matter, what should be the main focus of attention in development of agricultural production? For a long time people have generally believed the focus should be on water to combat drought. A scientist in the province, Comrade Zhang Qinwen, has put forward a different proposal. In an academic treatise published in 1981, "Organic Dryland Crops Agricultural Strategy," he pointed out that the technical strategy for development of agriculture in the northern regions of China at the present stage must be an organic dryland crop agricultural strategy.

The so-called organic dryland crop agricultural strategy means that in areas in which development of water conservancy is currently difficult, there should be leveling of the soil to conserve water and soil, and increased fertilization with organic fertilizer, paired with a series of farming methods to combat drought for the building of a farming system that interrelates use and nurture of the land, rather than insistence on an agricultural strategy that employs expensive irrigation. His goal is to build an equitable and highly efficient ecological system and to preserve an orderly material cycle and energy exchange in the agricultural production process, the land thereby becoming more fertile the more it is farmed to increase yields per unit of area.

Comrade Zhang Qinwen is a researcher in the Rural Economy Agricultural Systems Engineering Research Office of the Provincial Agricultural Zoning Commission, and he has worked for more than 20 years on forestry and agriculture in Youyu County. In the process of long work experience and investigation and study, he has accumulated a large amount of data, and he deeply feels that a large number of units do not attach sufficiently serious importance to soil improvement and build-up of soil fertility. Capital construction of farmland frequently emphasizes only changes in form and ignores improvements of an essential kind of a build-up of soil fertility. Attention goes only to the building of water conservancy projects and emphasis on water to irrigate the land to the neglect of fundamental improvements in the structural properties of the soil and the adoption of farming practices to combat drought. A large body of facts demonstrates that impoverished soil is one of the main reasons for the low yields and backwardness of agriculture, and for the frequency of natural disasters in northern regions of China. Hopes that reliance on construction of water conservancy can fundamentally solve drought problems are currently difficult to realize. When water is available, emphasis should naturally be placed on water, but when the "water route" is not open, it is necessary to take the "dry road," i.e., to adopt the strategy of organic dryland crop agriculture, taking the road of improving the soil and using the soil to store water.

Following publication of Comrade Zhang Qinwen's thesis, "Organic Dryland Crops Agricultural Strategy," not only did it receive the serious attention of leadership comrades in units concerned in Shanxi Province, but it also received the serious attention of units concerned and leadership comrades in the central government and in some provinces. Publications or reference materials published by the State Agricultural Commission, the National Agricultural Zoning Commission, the Agricultural Modernization Research Committee of the Chinese Academy of Agricultural Sciences, the Chinese Agricultural Economics Society and the Agricultural Economics Institute of the Chinese Academy of Social Sciences all either published in full or excerpted for publication Comrade Zhang Qinwen's treatise.

9432
CSO: 4007/256

ADMINISTRATIVE METHODS FOR ENHANCING FARM MACHINE EFFECTIVENESS EXPLORED

Taiyuan SHANXI RIBAO in Chinese 1 Feb 82 p 2

[Article by Pin Zeng [0756 1073] and Li Hua [2621 5478]: "Good Farm Machinery Management to Promote Agricultural Development. Province's Farm Machinery System Enhances and Improves System of Responsibility for Farm Machinery in Four Ways"]

[Text] In order to assure new advances this year in farm machinery work, the broad masses of cadres and workers in Shanxi Province's farm machinery system have actively mobilized to enhance and perfect the system of responsibility for farm machinery in four ways.

The provincial conference for exchanges of experiences on the system of responsibility for farm machinery management and production convened in early December 1981 gave very great impetus to the farm machinery front. In the process of reflecting on and summarizing the year's work, the broad masses of farm machinery workers experiences a keen sense of the need to enhance and improve systems of responsibility for farm machinery and production in a new situation. They studied and discussed the spirit of the Provincial Farm Machinery Conference, and focused, in a planned and goal-oriented way, on the weak links in practice of systems of responsibility for production to make gradual improvements in them.

First was strengthening of leadership and heightening of perceptions. Leadership comrades in farm machinery units in Pu County and in Zuoyun and Youyu counties led work teams of varying numbers of people into the countryside where they conducted typical case indoctrination to solve problems in perception. They used the mental reservations on the part of some communes and brigades during the past year that have resulted in fears that collectives would fail while individuals would prosper, bringing about destruction of farm implements, which hurt farming. From the year-end honoring of contracts, they learned lessons of experience for deciding on this year's system of responsibility.

Second was tailored guidance. Acting on requirements from the Provincial Farm Machinery Bureau, farm machinery management units at all levels in Xin County worked out specific criteria for selection of forms of a system of responsibility in specific situations, which were explained and publicized at the grassroots level. Comrades in charge of farm machinery units in Pingding, Xiyang and Heshun counties also went from village to village in the company of farm machinery management personnel from communes to give briefings on various forms and characteristics of systems of responsibility for farm machinery, and to give tailored guidance.

Third was signing of equitable contracts. In view of problems that cropped up in 1981 in the practice of systems of responsibility, when contracts were signed this year, in some places both parties discussed in detail, article by article and amount of money by amount of money, the specific content of "contracting production or work quotas, fixing amounts and giving rewards" regarding amounts, how to assure farmland operations, launching of economic diversification, how to maintain farm implements in good mechanical condition, and how various kinds of accidents were to be handled. They reached agreement on these matters, making the work of reducing or avoiding disputes that might arise a priority matter.

Fourth, farm machinery companies at all levels, and county farm machinery repair units, as well as farm machinery institutes, technical promotion units, safety control units and training units, all began to study measures to expand the scope of vocational activities, to streamline organizations, and to increase efficiency, as well as to solve the problem of personnel in excess of needs. In addition was diligent implementation of the unit's work criteria, seeking to find good ways to closely combine the welfare of staff and workers with the welfare of the collective. The broad masses of staff and workers said happily that coming to grips with the major matter of systems of responsibility at the beginning of a new [lunar] new year was a fine start.

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SICHUAN

BRIEFS

RECORD SICHUAN PIG PRODUCTION--Although Sichuan Province suffered from disastrous floods last year, the province's pig production and sales broke four of the highest records in history. According to the Sichuan Provincial Statistical Bureau, the province marketed 32 million pigs last year, the state purchased 19.3 million pigs. Both figures topped those of the peak year, 1980. Last year the province's urban inhabitants consumed an average of 56.1 jin of pork per person, 0.9 jin less than the year before. But the province's 80 million peasants consumed an average of 22.7 jin of pork per person last year, compared with 22.1 jin the previous year. The average consumption of pork for the entire population of the province, both urban and rural, was 26.8 jin per person last year, an increase of 0.3 jin over the previous year. [Text] [Shanghai JIEFANG RIBAO in Chinese 21 Jan 82 p 3] 9924

CSO: 4007/277

STATUS REPORT ON XINJIANG RECLAMATION SYSTEM PROVIDED

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 1, 1982 p 5

[Article: "Xinjiang Production and Construction Army Wins New Victories in All Around Bumper Harvest and in Turning Losses Into Profits"]

[Text] On New Year's eve 1982, the Xinjiang production and construction army located in the northwestern reaches of the motherland transmitted the inspiring news of victory in winning an all around bumper harvest and in turning losses into profits.

Thanks to the efforts of the reclamation area's broad masses of cadres and employees, the reclamation area triumphed over natural disasters of drought and hailstorms in 1981 to win a bumper harvest of rare proportions. Despite a 600,000 mu cut in the previous year's grain growing area, output increased by 3 percent over the bumper previous year and is expected to reach 1.9 billion jin. The cotton growing area increased by 300,000 mu and cotton yields per unit of area increased as well, to produce a ginned cotton output totaling 1 million dan, a 43 percent increase over the previous year. Fairly great increases also took place in output of oil-bearing crops, output totaling 900,000 dan, a 12.5 percent increase over the previous year. Hops output totaled more than 4,000 tons, a 1.5 fold increase over the previous year. Both the number of livestock in inventory, and the output and output value of various livestock products increased over the previous year. Gross output value of industry reached 770 million yuan, an 8.4 percent increase over the previous year. Of the 28 different major industrial goods included in the state plan, 21 either fulfilled or overfulfilled plan, and output value of 9 industrial products that use farm or livestock products as raw materials increased by more than 30 percent over last year. Results foretell a turning of losses into profits for the army as a whole for removal of the stigma of more than 10 consecutive years of losses.

Since the Third Plenary Session of the 11th Party Central Committee, the Xinjiang Reclamation Area has conscientiously put into effect the CCP Central Committee's programs and policies and has taken three great strides in 3 years to bring about major changes very rapidly in the reclamation area. In 1981 in implementing the programs and policies of the CCP Central Committee, they devoted attention mostly to the following several tasks.

First was to carry out programs for readjustment of the national economy with vigorous readjustment of the industrial structure. They took vigorous action to increase yields per unit of area and assure total output, suitably cutting back the grain crop growing area while increasing the growing area for various economic crops of high economic value, earnings from agricultural production thereby increasing tremendously. From the 300,000 mu increase in the cotton growing area alone, total earnings from agricultural production increased by more than 15 million yuan.

Second, they revived and developed integrated agricultural, industrial, and commercial operations and economic collectives. The army had formerly instituted integrated industrial, agricultural, and commercial operations for great increases in economic results. During the past several years they strove to overcome the damage caused by the 10-year period of turmoil, adapted general methods to local situations for development of industrial production, and followed a course of integrated agricultural, industrial, and commercial operations. In 1981, their profits from industry and transportation alone amounted to more than 55 million yuan.

Third, they promoted various forms of production responsibility systems. In 1979, they began to institute a system of sole responsibility for finances on farms, and a system of "three fixeds and one reward" for company-size units. In 1980 they tried out accounting by companies, fixing output quotas based on groups, and placing responsibility on specific people, and in 1981 numerous regimental farms and company-size units acted under unified administration in the further promotion of the fixing of output quotas based on groups and the linking of the calculation of rewards and penalties to output. Some promoted various forms of linking professional wages and variable wages to link fairly closely together employees earnings and the fruits of labor to arouse enthusiasm among employees.

Fourth, they did a solid job of promoting new scientific techniques. They instituted reasonably close planting of all crops, and increased by more than 10 percent the number of wheat and cotton plants in a full stand. All regimental farms improved fertilizing methods, each of them using a layer-by-layer deep application method. They extended use of the new technique of plastic mulching of cotton over more than 20,000 mu for ginned cotton yields of more than 190 jin per mu, an output increase of 30 to 50 percent.

9432
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GREATLY INCREASED SOYBEAN PRODUCTION URGED

Kunming YUNNAN RIBAO in Chinese 18 Mar 82 p 1

[Article: "Great Production of Soybeans"]

[Text] Great production of soybeans, white kidney beans and miscellaneous other pulses, striving for fairly tremendous increase this year in production of pulses, is an important task in spring-sown grain and pulse production, and is also a major matter in the development of economic diversification. The method proposed by Zhaotong County following analysis of the county's historical soybean production situation and present difficulties of the masses in getting products to eat made of soybeans is a good one in that it requires efforts to achieve manifold increases in soybean output this year and to take action on the basis of these increased production figures. Great production of soybeans now required just such determination and just such action!

Soybeans are a necessity in the lives of both city and country people. As people's livelihoods improve, mass requirements for soybean products steadily increase. However, in many places soybean output has not been restored to its all-time high. In many places the difficulties that city and country people experience in getting soybean products to eat are a long way from a solution. The famous Zhaotong soy sauce is hard to buy, and the famous Shibing dried beancurd, Lu'nan beancurd in thick gravy, Yuqi fried beancurd in thick gravy, Yimen fermented green soybeans and Kunming Taihe fermented soybeans are all hard to buy. Great production of soybeans has already become a major matter bearing on the livelihood of the masses. Advantages in developing soybeans are numerous as well. Given the fairly high procurement price paid for soybeans, peasant income will be increased. Root nodule bacteria on soybeans, which can fix nitrogen, can increase soil fertility to promote growth of other crops and lower production costs. When large quantities of soybeans are available, they can provide large amounts of raw materials to state and collectively-owned units for food processing, increasing state and collective income. For the state, the collective, and individual peasants, large-scale production of soybeans is necessary.

Yunnan Province has conditions favoring development of soybean production. Most of the province's more than 20 million mu of drylands can be used for the intercropping of soybeans or for planting them as a single crop. However, as a result of the reduction that has taken place during the past several years in the area on which soybeans are planted as a single crop, plus some improper farming methods, intercropping and interplanting of soybeans has been impaired. Now conditions exist for expansion of the area on which soybeans are grown as a single crop, as well as to take commensurate action to increase the quantity of intercropping and interplanting of soybeans. Still another important situation is that the broad masses of peasants in most areas are accustomed to and experienced in the growing of soybeans, and are currently enthusiastic about growing more and better soybeans. The key lies in leaders devoting serious attention to this problem and genuinely taking soybean production in hand as a major matter for increasing peasant income, developing economic diversification, and improving the livelihood of the masses, making plans, and, like Zhaotong County, taking several genuinely effective vigorous actions for gradual implementation echelon by echelon and unit by unit. These actions include the formulation of plans, designation of areas for the growing of soybeans as a single crop, for intercropping, and on earth embankments between fields, establishment of responsibility systems, the signing of procurement contracts between grain units and production teams and commune members, helping with the hauling of seeds, extension of advanced techniques, etc.

9432
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LINFEN PREFECTURE SPEEDS UP SUGAR CANE PRODUCTION

Kunming YUNNAN RIBAO in Chinese 1 Apr 82 p 2

[Article by Yang Yiji [2799 3558 1015]: "Linfen Prefecture Accelerates the Rate of Sugar Cane Production"]

[Text] In 1981, Linfen Prefecture achieved the highest record in sugar cane production in history. Sugar cane output for 1981 came to 152,000 tons, or a 36.4 percent increase over 1980 while sugar production reached 12,000 tons, or a 29 percent increase over 1980. Summarizing their experience in increasing sugar cane production, those in leadership positions in the party and the government in Linfen Prefecture have gone one step further to strengthen their leadership, increase single-crop sugar cane production and adequately enlarge the production area so as to win a still greater development in sugar cane production.

Linfen Prefecture holds a favorable position in sugar cane production. There are 8 counties, 79 communes (townships), over 500 production brigades and 10 state-operated farms in Linfen Prefecture, all of which are well suited to planting sugar cane. During the past year, those in leadership positions in the party and the government, in an all-out effort to implement the guiding principle of "absolutely not relaxing efforts in grain production and to develop diversified economy in a positive manner," took full advantage of the favorable natural local conditions in making sugar cane a mainstay production. First, in areas suitable for sugar cane cultivation and acting on the principle of "adopting methods suitable for local conditions, exercising a proper degree of centralization, coordinating planning and selecting the proper projects for development," they readjusted the distribution of crops and increased the acreage for sugar cane cultivation to some 54,400 mu, or 8.7 percent over the figure for the previous year. In order to resolve the conflict between grain and sugar cane production, the amount of agricultural tax in kind should be adjusted and reduced in sugar cane producing areas, the policy of "establishing a link between sugar cane and grain production, setting up base figures and offering bonuses for production in excess of the production quota" should be thoroughly carried out and the positive attitude of commune members to develop sugar cane enterprises so that the size of the producing areas may be stabilized, should be mobilized, making these producing areas reliable sugar cane production bases. Assistance should also be provided to the 1,300 plus sugar cane production brigades to set up various forms of the production responsibility system to suit their actual conditions. A bonus system should be set up to motivate the positive attitude of the cadres, technical personnel and the sugar cane production supervisors of the communes and brigades so that they may unite as one in the development of sugar cane production.

Over a number of years, sugar cane production in Linfen Prefecture has been characterized by low productivity, poor management, a lack of variety and low single-crop production and yield. During the past year, while the acreage for sugar cane production was being expanded, efforts were made to increase single-crop production. The agricultural departments and sugar mills in the various counties assigned a number of technical cadres to conduct on-the-spot conferences to train sugar cane production supervisors and to conduct high yield model plots to assist commune members to achieve higher standards in scientific production of sugar cane. There are in total 2,300 mu of high yield model sugar cane fields throughout the prefecture. Improvement was made on cultivation methods. Summer, autumn and winter sugar cane production was extended by 400, 1,400 and 1,200 mu respectively. The conflict arising from the competition for labor, water and the planting seasons between sugar cane and grain production was thus considerably eased. Furthermore, efforts were made to popularize improved varieties, raise the quality and quantity of the crop, intertill and prepare the soil at the proper time, increase the application of fertilizers, strengthen management and prevent and control insect diseases. Thanks to the early arrival of and even spring rainfall last year, sugar cane growth was thriving throughout the prefecture. The single crop per unit yield throughout the prefecture came to 2.87 tons, or a 14.7 percent increase over the figure for the previous year. Furthermore, a number of high yield model plots produced single crops of more than 10 tons per unit.

At the present time, sugar cane farmers in various areas are elated over the bumper harvests and are busily engaged in the peak season for the felling, transporting and pressing of sugar cane. During the first part of March, throughout the prefecture, 29,400 tons of sugar cane has been pressed and 6,900 tons of sugar has been produced. While close attention is being paid to the felling of sugar cane, the various areas are also summarizing their experience in achieving increased production, planning sugar cane production for this year and grasping spring sugar cane crop in time in order to win a still greater bumper harvest of sugar cane. The communes and brigades have pledged to direct their efforts toward increasing the single crop high yield of sugar cane, expanding sugar cane cultivation area; up to 60,000 mu for this year is in the plan, including 20,000 mu for the spring sugar cane crop. According to incomplete statistics, some 7,000 mu had already been planted by March 10.

9621
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LIVESTOCK EPIDEMIC PREVENTION, CONTROL URGED

Kunming YUNNAN RIBAO in Chinese 18 Mar 82 p 1

[Article: "Take Firmly in Hand Spring Prevention and Control of the Spread of Epidemic Diseases in Livestock. Provincial People's Government Issues Notice"]

[Text] On 11 March, the Provincial People's Government issued an "Urgent Notice on Taking Firmly in Hand Spring Prevention and Control of the Spread of Epidemic Diseases in Livestock," requiring that all jurisdictions diligently take firmly in hand prevention of springtime epidemics among livestock and diligently control the spread of epidemic diseases.

The notice said that springtime epidemic prevention work is already underway in Yunnan Province. Some places have taken this work firmly in hand; measures taken have been vigorous, progress has been fairly rapid, and the number of inoculations given fairly high. However, development has been very unbalanced, and as of the end of February, only 30-odd counties in the province had completed their springtime prevention work. In most places, progress has been slow, and the number of inoculations given fairly low. Another 10-odd counties have not gotten underway. March is a key period for conducting spring epidemic prevention inoculation of livestock, and the opportunity cannot be missed. Consequently all jurisdictions are required to conscientiously perform the following tasks.

1. All levels of government are to diligently strengthen leadership of this work, assign a responsible comrade to take charge of it, immediately examine progress that has been made in spring epidemic prevention work, focus on existing problems, and take energetic action. All levels of livestock units must vigorously attend to and conscientiously take in hand spring epidemic prevention work.

2. In places in which the work is being done poorly or has yet to get underway, vocational units are to allocate personnel, expenses and pharmaceuticals necessary for springtime epidemic prevention work to help these places do a good job of springtime epidemic prevention. Places in which genuine hardships exist should allocate needed funds in accordance with pertinent regulations, and practice

dividing up the work and assigning tasks to individuals, bonuses being given for overfulfillment. Needles should be used to assure completion of the province's 70 percent quota for epidemic prevention inoculations.

3. Places that have completed livestock epidemic prevention work should organize booster inoculations and carry out market quarantine work to control the spread of epidemic diseases.

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YUNNAN

PROVINCIAL PLANS, METHODS OF IMPROVING RED SOILS REVEALED

Kunming YUNNAN RIBAO in Chinese 25 Mar 82 p 1

[Article by Xue Qirong [5641 0796 2837]: "Improve Red Soil To Hasten Agricultural Development--A Summary of Experiences of Some Areas in Improving Red Soil"]

[Text] Recently at the Provincial Conference for the Spread of Red Soil Improvement Techniques, which was jointly convened by the Provincial Science Commission, the Provincial Agricultural Commission, the Provincial Department of Agriculture, and the Provincial Academy of Agricultural Sciences, it was decided that this year 1 million mu of low yield red soil farmland is to be improved, and before 1985, 5 million mu of red soil farmland throughout the province is to be improved little by little.

What can be done to improve red soil? Some areas' experiences in the improvement of red soil are as follows:

Sensible Phosphate Fertilization. In most red soil regions of Yunnan Province, soil phosphate content is low, and effective phosphate directly usable by crops is even lower; therefore, increased fertilization with phosphate is urgently required as part of the improvement of red soil, solving the effective supply of phosphate at the same time. In the course of their long experience in production and research, agricultural scientists have figured out some sensible techniques for fertilization with phosphate. 1) Increased fertilization of low fertility red soil with phosphate fertilizer. The Soil Fertility Institute of the Provincial Academy of Agricultural Sciences conducted experiments at Longquan Commune in Kunming, which showed that for every 50 kilograms of phosphate fertilizer applied to low fertility red soils, corn yields increased by 439 jin. Use of the same amount of phosphate fertilizer on highly fertile red soils produced yield increases of only 105 jin of corn. Phosphate fertilizer experiments conducted at other places also showed that following: On most low fertility red soils, for every 50 kilograms of phosphate fertilizer used, effectiveness in increasing yields was approximately that of 4,000 jin of barnyard manure, corn yields increasing by from 100 to 200 jin. 2) Concentrated use of phosphate fertilizer for base fertility. When used as a base fertilizer, phosphate concentrates in the crop rhizosphere, reducing the contact surface of the phosphate and soil particles for an increase in utilization rate. Experimental statistics show that when phosphate fertilizer is spread, its utilization rate is a general 10 to 20 percent, when applied in concentrations, its utilization rate may reach as high as 40 to 60 percent. 3) Use of phosphate fertilizer and organic fertilizer in combination. Use of this method can reduce the active iron and aluminum content of red soil, promote release of soil phosphate, and increase the effectiveness of phosphate fertilizer.

Active Expansion of the Growing of Green Manure. Production experiences everywhere have shown that use of green manure on red soil, particularly on low fertility red soil, can remarkably increase grain yields. Statistics from the Soil Fertility Institute of the Provincial Academy of Agricultural Sciences show that when between 1,000 to 4,000 jin of green manure was applied to low fertility red soil dryland fields, corn yields increased by from 4.3 to 36.1 percent for average yield increases of 19.7 percent. For every 1,000 jin of green manure applied to paddy fields, paddy yields increased from 57.3 jin to 133.5 jin, for an average increase of 94.6 jin per mu.

Adaptation of General Methods to Local Situations in the Use of Lime and Trace Element Fertilizer. The use of lime or calcareous material to improve red soil has been an effective soil improvement method used by the masses for many years. Experimental statistics show that the spreading of from 500 to 1,500 jin of lime per mu on red soil of average acidity increased corn yields by from 66 to 236 jin. With the application of 3,000 jin per mu of lime, soil acidity decreased; effective phosphate increased; soil water retention and fertility increased; and corn yields increased by more than 100 jin. However, the spreading of lime or calcareous material to improve red soil requires adaptation of general methods to local situations. In places where mostly lime is to be applied, a first application of from 2,000 to 4,000 jin per mu is suitable, followed by a second application 3 to 5 years later. Places using mostly calcareous material (white sand) should apply from 10,000 to 15,000 jin per mu the first time. If lime is well spread, there is no need to mix lime or white sand with phosphate fertilizer as a covering fertilizer; instead the lime can be applied along with barnyard manure. In some of the newly reclaimed areas of Yunnan Province, sandy red soil effective content of trace elements, such as copper, boron and zinc, is low, and if excessive amounts of white sand or calcium-manganese-phosphate fertilizer is applied, effective fertility may be easily reduced. Attention must be given the increase in trace elements. Experiments have shown that use of 3 jin per mu of zinc sulfate as a base fertilizer or use of a from 0.15 to 0.2 solution of zinc sulfate to spray leaf surfaces two or three times can increase corn yields by 100 to 200 jin per mu.

Deep Plowing and Mixing In of Soil Brought from Elsewhere. Some places in Yunnan Province have practiced the digging of large pits for use in deep plowing and the mixing in of foreign soil, both of which have shown fine results in improving red soil. Deep plowing and the addition of foreign soil mostly make the friable surface horizon thicker, improve the red soil's physical properties, and regulate the soil's moisture, air and temperature conditions, creating conditions for the transformation of nutrients. According to analysis of equally stiff Milexi soil, the per unit weight of soil to which foreign soil had been added was lighter, its porosity greater, and its moisture content higher than that of either soil plowed by oxen or soil to which no foreign soil had been added. Its effective nutrients also showed remarkable changes, and the thickness of the cultivated horizon was increased.

Reform of the Farming System. Sensible interplanting and intercropping plus crop rotation in a combination of use and nurture of the soil to make full use of the superior natural conditions and latent soil fertility that Yunnan's red soils offer are important links in increasing crop yields, and they are also major ways in which to increase red soil fertility. Experiences resulting from demonstration crop system reform on three red soil plots in Wenshanzhou show that given the same care, intercropping can produce yield increases ranging from 120 to 200 jin per mu more than the growing of a single crop. All jurisdictions can adapt general methods to local situations for the intercropping of long and short stem crops, and for the intercropping of grain, edible oil, pulse, and green manure crops to increase the multiple crop index and to increase ground cover, with benefits for regulation of soil temperatures, humidity and nutrients, to achieve a combination of nurture and use, increased soil fertility, and consistently high yields.

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BRIEFS

FOOD, GOODS SUPPLIES--Since the beginning of this year, the supplies of nonstaple food and daily-use consumer goods in Yunnan Province have been better than last year. The supply of vegetables is better than last year. According to the statistics of Kunming, Baoshan and Qujing, the quantity of vegetables on sale in the market and the variety of vegetables are both greater than last year. In the first quarter of this year, the province purchased some 748,000 pigs, some 39,000 pigs more than in the corresponding period last year. According to statistics, the number of watches, TV sets and the amount of ginned cotton sold in the province in the first quarter of this year was 48, 35 and 50 percent more than in the same period last year respectively. The supply of small commodities in the province is better than last year. The number of contracts for small commodities signed in the province in the first half of this year was 70 percent more than in the same period last year. There are more small commodities which the masses need, including cotton thread, sewing needles and combs, on sale in the market than last year. The proportion of small commodities to all commodities has increased from 32 percent last year to 35.7 percent now. Matches which were in short supply last year have been in ample supply since the beginning of this year. The amount of matches supplied in the first quarter was 10.6 percent more than in the corresponding period last year. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 21 May 82 HK]

SUGARCANE PROCUREMENT--Yunnan Province has reaped a good harvest of sugarcane this year. As of 26 May, the province had procured 220,000 tons of sugar, or 40,000 tons more than last year. The province's total sugar output this year has hit an all-time high. By mid-May, the province had produced over 245,000 tons of sugar, or 28 percent more than in the previous year. [OW041437 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 31 May 82 OW]

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I. GENERAL INFORMATION

SYMPOSIUM ON GRAIN DRYING TECHNIQUES HELD

Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 1, 1982 p 28

[Article: "National Symposium on Grain Drying Techniques Held in Yongchuan"]

[Text] The National Symposium on Grain Drying Techniques sponsored by the Special Committee on Harvest Processing Machinery of the Chinese Farm Machinery Society was held 1 to 5 December 1981 in Yongchuan County, Sichuan Province. The meeting discussed the direction and the road of development of our nation's drying techniques, energy needed for drying, drying techniques, and the study of structural parameters of machinery parts.

According to statistics compiled by the Ministry of Agriculture, in ordinary years, several billion jin of grains are damaged by mildew caused by rain throughout the nation. In serious years, more than 10 billion jin are damaged a year. Overcast and rain occur frequently during the harvesting seasons in the south. The monthly average duration of rainfall in some localities is more than 20 days. The relative humidity is above 80 percent, and the temperature rises to 27-28 degrees centigrade. Loss of food grains due to mildew is high. The meeting expressed the view that the southern provinces should popularize key regions of grain drying machinery. The northern regions can also correspondingly develop grain drying techniques by suiting measures to local circumstances based on economic conditions and the climate of local farm villages. The Northeast is the major commercial food grain base. Grains are gathered on the drying fields in a concentrated manner during the harvesting season. Manual turning and drying require 50 to 60 percent of the labor force. Equipment for preliminary selection of grains and drying and partial storage facilities are urgently needed. It is suggested that research and development of complete sets of food grains processing facilities (including dryers) by state-run farms be included as a key national project.

It was the view of the meeting that the small flat-bed type dryer, the simple storage type dryer and the fluidized-bed type dryer should be the main models for popularization. Rich communes and brigades can gradually popularize some cyclic type dryers that are structurally advanced and that have a better performance.

As regards the problem of energy for drying, the meeting considered that the state should appropriately provide oil fuel for commercial food grain bases and seed supply stations to guard against disasters and protect food grains, assure bumper yields and bumper harvest. In the broad number of villages, coal should be the main source of energy at present, and measures should be suited to local circumstances to develop dryers that use solar energy, small hydroelectric power, marsh gas and residual grain materials such as stalks and husks as fuel. The localities have commented that the supply channel for energy needed for drying at present is blocked and that concerned departments should urgently study the problem and solve it.

At the meeting, many beneficial opinions and suggestions were offered to hasten future development of the grain drying machinery industry in our nation.

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NEW PROBLEMS FACING PRODUCTION RESPONSIBILITY SYSTEM NOTED

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL AFFAIRS] in Chinese No 3, 1982
pp 15-16

[Article by Shi Ronghua [4258 2837 5428], secretary of Rangyang County CCP Committee, Hubei Province: "Give Attention to the Study and Solution of New Problems in Production Responsibility Systems"]

[Text] Right now communes and production brigades are discussing and setting up 1982 production responsibility systems and signing contracts. All levels of leadership cadres should probe the realities and give attention to the study and solution of new problems regarding responsibility systems.

1. Production levels must not be set too low. The level at which production standards are set not only bears on the amount of real benefits the masses receive, but also has ramifications for the welfare of the state and the collective. Guided by "the principle that the masses should be allowed to exceed production when setting output quotas," some production quotas set by production team candres are not only lower than output during the past several years, but even state quotas cannot be fulfilled. Though accounting is done in some cases on the basis of average output for the last 3 years, since 2 of the past 3 years were years of diministed output, the production levels set are still less than for normal year harvests. In some cases, last year's actual output exceeded the originally prescribed output, but disasters were offered as an excuse for a general decline in output. In some places a situation has cropped up in which "anything more belongs to oneself with no fulfillment of state quotas and with nothing for the collective." Just where should output be set? First of all, we must rectify our thinking, define what it is that arouses enthusiasm, rely on policies confidently, and allow the masses to have genuine economic benefits. But one positively cannot suppose that allowing commune members to exceed quotas by a large amount is the only way that their enthusiasm will be great, that if they overfulfill quotas by just a little that their enthusiasm will be small, or that if they do not overfulfill them at all they will have no enthusiasm. Standards for setting output must be based on comparison with increases in output during normal years, and have as a prerequisite assured fulfillment and overfulfillment of state quotas if the enthusiasm of the masses is to be genuinely aroused, production potential tapped, a great contribution made to the state, and commune members are to be able to exceed output quotas.

2. Grain provided by the state at parity price must not be consumed while farm products are sold at high prices. This problem is a relatively conspicious one in places where land is scarce relative to the work force and where grain output has fallen as a result of disasters. With the establishment of responsibility systems linked to output, farm products are in the hands of commune members. In addition, under prevailing policies there are two markets and several prices for these goods. So, some commune members take farm products to markets or outside their locale to sell them for high prices, while state procurement quotas remain unfulfilled. Second, some commune members do not plant according to plan. They expand the growing of economic crops and cut back on the grain growing area, so grain procurement quotas are not fulfilled and the state is relied on to provide grain for consumption. Moreover, when quotas originally set for economic crops are small and actual output large, they sell a large portion in the market, keeping the money obtained for themselves. In addition to readjusting policies and making regulations more restrictive to counter this problem, cadres and the masses must be indoctrinated in establishing a patriotic sense and properly handling the relationship among the state, the collective, and the individual regarding benefits.

3. Procurement quotas must not be set for major farm products alone. As a result of the establishment of production responsibility systems, new changes have taken place in state purchase quotas. Formerly, for example, all quotas were set for production teams, but now product procurement quotas are levied on households. Formerly, grain and edible oil quotas stipulated only the quantity, with no breakdown by variety. Formerly there were only quotas for grain, cotton, and edible oil, and not for other economic crops. Consequently, all quotas must be readjusted and made specific. Unless this is done, problems will occur. For example, if there is only a general quota for grain while soybeans and mung beans command a high price in the market, some households will not sell soybeans or mung beans to the state but rather will fill their quotas with coarse food grains [e.g. corn, sorghum, and millet]. They will satisfy edible oil quotas by supplying rapeseed oil and cottonseed oil while keeping sesame oil for their own consumption or for sale at a high price. Once grain, cotton, and edible oil quotas have been fulfilled, items such as tobacco and peanuts, for which there are no quotas, will be sold at high prices. Therefore, to assure planting in accordance with state plans, all types of farm products should not only be assigned a procurement quota, but fixed quantity quotas for procurement at negotiated prices should also be set. Not only should quotas be placed on production teams but also on households. Not only should quotas assigned commune members by production teams be assured of fulfillment, but also overfulfillment by specific amounts, and contracts should be signed.

4. There must not be one-sided emphasis on letting commune members derive more real benefits and an abandonment of collective welfare endeavors. Following the establishment of production responsibility systems, in some places a situation has arisen in which "everyone did his own thing," and the collective was left without either money or grain. In many brigades, cooperative medical clinics closed their doors for lack of money to support them, and commune members went to hospitals to have their illnesses tended to.

Hardships difficult of solution occurred for the households enjoying the five guarantees and for hardship households. There was no grain or allowances for those who carried out construction, so it was difficult to find workers to send to perform tasks. Consequently, after establishing systems of responsibility linked to output, there must be no "dividing up until everything is gone or eating until everything is gone." The collective must withhold a certain proportion of public welfare funds in order to improve the material and cultural life of the people and to improve health standards.

5. There must be no linking of output to land or disbandment of collective industrial sideline occupations. Before the establishment of responsibility systems, many production teams had industrial sideline occupations, but following the establishment of responsibility systems for agricultural production, many production teams had no means of engaging in industrial sideline occupations for the following reasons: 1) management levels were low and income from some sideline occupations small, so they simply stopped working; 2) soil cutput was set too low, permitting production in excess of quotas, while sideline occupations provided no assurance of increased earnings, so those engaged in sideline occupations simply quit; 3) it was mistakenly believed that linking income to production meant a division of the fields for working individually and it was feared that no land would be available in future for those engaged in sideline occupations; 4) in places with little land relative to the work force, some commune members spent time on sideline occupations for which they were not accountable, pocketing the money they earned; in consequence, many of the processing plants, transportation teams, construction teams, carpentry teams, plaiting teams, hog raising teams, beekeeping teams, and such sideline occupations that the collective had formerly organized had no one to work them, and collective income greatly decreased as a result. In light of these attitudes and realities, policies must be made clear to cadres and the masses. Where management is poor, it must be strengthened. Where occupations can be carried on jointly by the collective and individuals, the collective and individuals should work together. For both agriculture and sideline occupations, output quotas should be equitably fixed and remuneration should be generally balanced. Specialized teams and specialized households can be established for industrial sideline occupations. In summary, where conditions permit, not only should collective industrial sideline occupations be consolidated but they should be steadily developed in order to find opportunities for surplus rural labor and to increase earnings for the collective.

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RESULTS OF SCIENTIFIC FARMING EXPERIMENTS IN FIVE COUNTIES REPORTED

Beijing NONGYE JINGJI WENTI in Chinese No 2, 1982 pp 35-37

[Article by Chen Lin [7115 2621], Hao Qi [6787 3825], and Xu Xin [6079 6580], Agricultural Modernization Research Committee, Chinese Academy of Sciences, "How Five Agricultural Modernization Bases Launched Scientific Experiments"]

The Chinese Academy of Sciences and provinces concerned established at Taoyuan, Luancheng, Hailun, Yanchi, and Guyuan five agricultural modernization comprehensive research base counties for research and applied science and technology to hasten development of agricultural production. A brief summary of several understandings gained from the conduct of scientific experiments during the past several years are provided below.

Beginning With Reform of the Crop Growing System For Gradual Revival and Building of an Equitable Agricultural Ecological System.

In the several base counties as in the country at large, a single product economy over a long period of time has greated proportional imbalance in the internal structure of agriculture; the ecology has lost its equilibrium; and agricultural production has developed slowly. Changing this state of affairs to convert the vicious cycle in agriculture into a benevolent cycle requires a process and performance of a large amount of research.

By way of solving this problem, several base counties began with readjustment of crop patterns and restructuring of the farming system. For example in Hailun County from south to north there is an accumulated temperature difference of almost 300°C and a more than 100 millimeter difference in quantity of rainfall, so they readjusted crop patterns on the basis of accumulated temperature and accumulated water belts. In the north and northeastern areas, rainfall is fairly great and soil moisture conditions are rather good. The frost-free period is comparatively short too, so these areas were designated bean and wheat producing areas. Southern and southwestern portions where, spring drought occurs in many years and where accumulated temperatures are high were designated corn growing areas. In 1979 when only a portion of the corn growing area of the northeast was transferred to the southwest, and when only a portion of the wheat and bean growing area was transferred from the southwest to the northeast, grain yields increased by 14 million jin.

Taoyuan County is a transitional region between the central semi-tropical belt and the southern semi-tropical belt where natural conditions are complex. Formerly two crops of rice were promoted here with "arbitrary uniformity" in contravention of objective laws. This artifically intensified the labor shortage for the "three summer jobs" [planting, harvesting, and field care], and a large part of the workforce was shackled to paddyfields that accounted for only about 10 percent of the county's fields. The abundant natural resources could not achieve development and utilization, and for a long period of time no development of economic diversification could begin. The Changsha Agricultural Modernization Institute converted to the growing of a single rice crop one-third of the Guanshanling Brigade's wetlands that should not grow two rice crops. This emancipated workforces, changing the ratio of the workforce engaged in agriculture and in economic diversification from 8:2 to 5:5, economic diversification thereby attaining rapid development. The result of the experiment was that grain output increased 16.8 percent; costs dropped 13.8 percent; and average per capita income increased by 33.30 yuan. The results of their research spread without having been given any publicity, and by 1981 77 production brigades followed them to do the same thing.

Through the introduction of early ripening fine corn variety, "Jingzao No 7," Luancheng County aslo solved problems with machine planting. A farming system of flat seeding [as opposed to sowing in raised rows or beds] of wheat and corn as two separate crops was universally promoted in production. In 1980, despite severe disasters, yields rose from 300 to 400 jin in ordinary years to 614 jin per mu, a 21 percent yield increase. This reversed a situation that had endured for many years of "summer high and autumn low." During the past year or two, intercropping of corn with pulse crops has further improved this farming system.

In restructuring the farming system and readjusting crop patterns in order to establish an equitable agricultural ecological system, the vicious cycle in agriculture thereby becoming a benevolent cycle, these three base counties have taken a heartening step.

While studying and restructuring the farming system, the three base counties of Hailun, Taoyuan, and Luancheng selected a number of production brigades for study of the optimum structural proportions of farming, forestry, livestock raising, sideline occupations, and fisheries in terms of distribution of workforces, rational utilization of resources, transformation of energy and resources, and increasing earnings from sideline occupations. For many years Taoyuan County has used rice straw for livestock feed. While studying the benevolent cycle system in large scale agriculture, fields dependent on rainfall and where harvests are very low) were converted to the growing of hybrid corn. Test planting of a single crop of early corn on these lands in 1980 produced yields of about 600 jin per mu. In 1981, late crop corn yields amounted to from 300 to 400 jin per mu or almost 1,000 jin for two crops. This was between one and two times as much as from the growing of paddy rice. Use of fields dependent on rainfall for the growing of corn not only solved the problem of fodder for poultry and livestock, but also solved the contradiction of competition for water between paddyfields and ponds.

The Hubei Aquatic Products Institute conducted experiments with the raising of fish in paddyfields at Taoyuan. They used a method of digging pits in paddyfields to solve contradictions between shallow watering, frequent watering, sunning the fields, and the raising of fish, obtaining very good results. Net income per mu from fry was about 15 yuan. After fish were raised in the paddyfields, virtually all of the weeds in the fields were eaten by the small fish; major soil nutriments increased; and paddy yields increased 15 percent. Net income from fields in which fry were raised increased 46 percent. Taoyuan is preparing further to combine paddyfield and pond raising of fish, and reservoir and river raising of fish, to form a freshwater breeding system.

These experiments brought about changes in the existing structure and performance of the ecological system, accelerated the material cycle, and heightened the energy transformation rate.

Attention to Key Techniques and Organization of Comprehensive Scientific Experiments

Limiting factors impairing production existed in the agricultural production of all base counties. In Taoyuan County, for example, the protracted drowning of paddyfields has given rise to secondary gleying of the soil. The gleying area accounts for about 40 percent of the paddyfield area. In the management of its crops, Luancheng County has violated objective laws using large amounts of water, fertilizer and seeds so that output is not worth the costs, production expenses per mu amounting to 40 percent or more. In Yanchi County quality of flatland sheep had dropped and the rate of removal from inventory was low. In focusing on these problems, many specialities and many disciplines were organized for comprehensive experiments and large scale cooperation that transcended departments. Results of research on individual facets was organized into a coherent whole and converted into techniques that could be applied. This produced outstanding results and greatly accelerated the process of converting research results into productivity. For example, application of a number of principles and methods of genetics to figure out the interrelationship between the number of twists in flatland sheep wool spikelets and other properties and generic capabilities in order to set criteria for breeding of fine varieties and selecting the finest of the fine, thereby rapidly upgrading the inherent fine traits of flatland sheep. Production units set up an associated artificial insemination station, which increased the breeding rate for rams from the natural breeding rate of five to 10 to more than 200 ewes. At the same time they vigorously culled out rams, weak sheep, and inferior sheep from the flocks, the structure of the flocks becoming more rational thereby. Within a period of 2 years, the size of flocks has increased eight percent, and income from livestock products has increased 61 percent. No more than 2 to 3 years were required from research to application to production. Such speed is rare in agricultural research.

Taoyuan County's experiments with changing the secondary gleying of paddyfields was done by improving paddyfield water conservancy facilities, rotating between wetland and dryland crops, lowering the ground water table, improving the physical and chemical structure of the soil, and decreasing toxic reduction materials. After the soil had been improved, springtime mud temperatures rose to 1 to 2°C, and injurious reduction materials declined; effective potassium increased 0.5 mg/100 grams of soil; effective phosphorous increased by 0.69 mg/100 grams of soil, and soil pH rose from 4.32 to 5.61. In the same year paddy yields increased by 100 to 200 jin per mu.

As the role of science and technology in economic construction continuously expended, developmental research to promote new techniques and new materials received serious attention universally within the country. Development research is a bridge whereby science and technology is transformed into productivity to become more important in agriculture. This is for the following reasons:

First, results of agricultural research, and particularly results of individual technologies are obtained in the non-productive conditions of laboratories or small area experiments. Their application to production will additionally require a research process whereby they are paired with and adapted to other technologies.

Second, before research results can be applied to production, intermediate experiments are performed in industry while this stage is a void in agriculture.

Agricultural modernization experimental basis can use the method of "take-ism," comprehensively applying existing research results to launch research to fill in gaps to complete a chain, using it as one's own point of departure for research. First comes copying, followed by innovation with innovation coming in the course of use, and technical and theoretical development taking place on a higher plain from a foundation of solving real problems in production.

Use of Technology Requiring Small Investment That Shows Quick Results and Great Benefits With Research Placed in an Important Position

Judging research results requires, first of all, a look at its direct economic benefits for production or its anticipated results in spurring economic development. Because China's agricultural techniques and equipment are relatively poor, and peasant cultural levels and knowledge of science and technology relatively low, in order to realize increased output over large areas technology that requires little investment, brings quick results, and is simple and readily usable is all the more necessary. In our experiments at base counties, this kind of research was put in a priority position.

Yanchi and Guyuan counties are windblown and arid areas where evaporation exceeds rainfall, water becoming a limiting factor on agricultural development. For these counties to resort to construction of water conservancy as other places do to solve the problem of irrigating fields is clearly difficult. Consequently, how to conserve natural rainfall becomes a major research problem. The Desert Institute of the Chinese Academy of Sciences worked from analysis and mystery of the laws governing local rainfall and their relationship to crop growth and development. Before the advent of the rainy season, they loosened the soil deeply but did no further plowing of it. This is called the deep loosening method or little cultivation method, and, as compared with traditional farming methods, it greatly increases soil capacity to take in and store moisture. Between 0 and 50 centimeters down, soil water content is increased 13.2 percent between 30 and 50 centimeters water content is increased 47.7 percent. Broom millet output increased 13.4 percent, and millet output increased 31.9 percent. Since this method does not disturb the surface horizon of the soil, a substantial amount of crop stalks and other leavings can be retained; these reduce soil evaporation and erosion. Since this technique is uncomplicated and easy to apply, while the experiments were going on nearby peasants wanted to use it. Decision has been made to promote throughout the county the large numbers of armless, deep-loosening farm implements produced by the Yanchi County Farm Implements Plant. Though results of research of this kinds have extremely evident economic benefits, some people feel they do not reflect scientific "refinement " These people do not realize that sucn methods can increase production and are welcomed by the masses.

Luanchen County was a famed cotton producing county before Liberation, but in view of the emphasis given to "early" in the farming season during the past 10 years or more, disease has been serious during the seedling stage, plants have been missing and the soil cracked around plants. Yields fell to 20 or 30 jin per mu. Research has shown that a 15 to 20 day delay in the time of sowing, in accordance with different temperature requirements for cotton seed sprouting and elongation of embryo stems, brought full stands of plants and sturdy stems, providing a fine basis for the 80 jin per mu cotton yields for the county as a whole in 1981.

Fine varieties are also technical measures in the category of requiring little investment, bringing quick results, and providing great benefits. Several base counties rather diligently set about purification and rejuvenation of varieties, and perfected fine variety propagation systems from which results have begun to be obtained. Nevertheless, the potential has not yet been very well exploited, and work requires further strengthening.

The aforementioned research work has not been seriously viewed for a long time, and at times it has been derided as the work of "evil people." The researchers engaged in this kind of research work received no support or were even looked down upon. I feel this situation is related to the country's policies toward science. Formerly we evaluated and rewarded research results in terms of "use." Therefore, henceforth we should change this state of affairs through policies toward science and management of research so that science and technology will play a role in the advancement of agricultural production.

Development of Industry That Can Be Used By Agriculture Locally to Solve the Problems of Technical Change of Matters in Nature

Quite a few research results need to be turned into products or necessary material conditions for their application provided before they can be applied to production. This is because research results generally are things that belong to the category of an intellectual formulation that cannot be directly applied to production. An example is full rate livestock feed and compound fertilizer, the nutrients in which are abundant, which are proportionally balanced, are of high efficiency, and which have been generally applied abroad with success. In recent years research in their use in some parts of China has brought fine results. However, unless a modern livestock feed and compound fertilizer industry is built, and problems in the socialization of the supply of products solved, advanced technology cannot be translated into productivity.

Solution to problems of technical change of matters in nature and development of agricultural industries requires overall planning by the state. Insofar as its strength allowed, Luanchen County established livestock feed processing plants and studied three formulas for production of hog feed. After these feeds were used the pork to feed ratio declined from 1:5-6 to 1:3.8, the return on feed increasing by 30 percent or more.

The Ministry of Chemical Industries conducted compound fertilizer experiments at Luancheng and prepared to convert small chemical fertilizer plants to compound fertilizer plants. At first they experimented with compound nitrogenous and phosphate fertilizer gaining yield increases of about 15 percent as compared with use of the same quantity of nitrogenous or phosphate fertilizer.

During the past 3 years, several base counties have launched experiments in the application of the results of a hundred or so large and small research projects, all of which have resulted in yield increases to varying degrees. However, some results have been taken up for use and others have not. The reasons for this, apart from inadequacies in the techniques themselves, that they are not key measures for increasing yields, and that the masses find them a bother to use, lies in problems the technical change of substance. Therefore, development of agricultural industries and building of a modern industrial base to render service to agriculture are indispensable material conditions for hastening the application to production of the results of scientific research.

9432
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USE OF PLASTIC SHEET MULCHING FOR UPLAND RICE EXPLAINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 8 Apr 82 p 4

[Article by Yi Cai [2496 2088] : "Plastic Sheet Mulching for the Growing of Upland Rice"]

[Text] In North China water resources are limited, to the detriment of paddy rice production. The use of plastic sheet mulching to grow upland rice is a new means of saving water in growing rice. Experience has shown the actual need for water of paddy rice to be somewhat less than for upland rice. Paddy rice can grow normally in a comparatively fertile cultivated layer using plastic sheet mulching where the soil water content is around 20 percent. Once the plastic sheet has been put down, water in a deep layer of soil has a tendency to move toward the surface layer. This is because moisture evaporated by the sun's rays condenses when it hits the plastic and forms droplets that drip onto the surface of the soil. Plastic sheet mulching also raises the soil temperature. The increase in temperature during May and June is particularly apparent. At a depth of 5 to 10 centimeters in the cultivated layer, the average daily temperature increase is between 1.2 and 3.6 degrees centigrade. Under conditions of high temperature and great humidity, microorganism activity increases, thus promoting the breakdown of soil nutrients, improving the physical properties of the soil in the cultivated layer, and creating a favorable environment for early stage rice growth and development.

When plastic sheet mulching is used for upland rice, either dry seeds may be dibbled into holes or seedlings may be grown for transplanting. Practice has shown that it is easier to get full and even stands of rice from the transplanting of upland propagated rice than from the dibbling of dry seeds, and elimination of weeds during the early stage is also helped. Usually 0.015 millimeter think transparent plastic sheeting is used as a mulch; holes are punched in it to suit rice planting density, the best hole size being 4 centimeters.

For growing upland rice using plastic sheet mulching, insofar as possible, low-lying easily flooded waterlogged land and flatland that can be easily soaked where wetland and dryland intersect should be selected. Results in the growing of rice using plastic sheet mulching are best in places that are dry in early spring, where water is lacking for the transplanting of rice seedlings, where the land is prone to waterlogging during the rainy season, and where yields from dryland crops cannot be assured. Fields having overly small amounts of rainfall must have irrigation facilities in order to provide "life-saving water" when needed.

For upland sowing, varieties must be selected that are drought-tolerant, short-stemmed, disease-resistant, lodging-resistant, early maturing, and high yielding. In propagating seedlings for transplanting, local intermediate ripening varieties should be selected. Because rice development is restricted by a shortage of water, ripening will occur later than when grown in paddy fields.

Once the mulch sheet has been put down, it cannot be removed for weeding; therefore, a herbicide should be used to get rid of weeds before the plastic is laid. Between 6 and 8 liang of 50 percent benthiocard of 40 percent nitrofen per mu will effectively eliminate weeds and will be relatively safe for the rice. Herbicide strength must be accurate and spraying must be done evenly. Miaoyan weeds [5379 4190 5430] have to be removed by hand or cleared away with herbicide.

The land must be turned well and raked finely. All stubble and weeds must be cleared away entirely, and the surface of fields or mounds where crops have grown must be rolled flat. The plastic sheeting must be stretched taut, laid flat, and it must hug the surface of the ground; soil must be placed on its edges to hold it down so that the wind cannot lift it and allow soil moisture to escape.

Plants should be 3 cun apart, about 20,000 holes per mu being planted. Six or seven plants should be transplanted into each hole or 10 to 12 seeds planted per hole so as to get about 15 panicles per hole.

For fertilizers, farmyard manure and sufficient phosphate and potash fertilizer should be used, the amount of nitrogenous fertilizer being reduced to about one-third the amount usually used on paddy fields. This fertilizer should be applied over the entire field and worked into the soil before sowing. If fertilizer appears lacking in the later stages, fertilization for heading or grain formation may be carried out. Fertilizer can be applied before rains, or the plastic may be broken and fertilizer dibbled in, or leaf surfaces may be sprayed with fertilizer.

Plowing and ridging should be carried out in early spring to prepare the field plots and advantage should be taken of soil moisture to sow or transplant early. Places having experience in seedling propagation might best propagate sturdy upland seedlings and plant them early at the right time. Where soil moisture conditions are fairly good, survival is possible without flooding the fields, but transplanting should be carried out quickly right after rains. In both early sowing and early transplanting, soil should be used to close planting holes tightly.

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NECESSITY FOR MULTIFORMITY OF RESPONSIBILITY SYSTEM EXPLAINED

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[Article by Yu Feng [5713 6912] and Chen Wenke [7115 2429 4430] of the Hubei Social Sciences Institute: "A Trial Discussion of the Multiformity of Our Country's Agricultural Production Responsibility System in the Present Stage"]

[Text] Over the past 2 years, various forms of the agricultural production responsibility system, characterized by linking remuneration to output, have been further developed in the vast rural areas of our country. Their speed of development and proliferation have already greatly exceeded people's expectations. People had originally envisaged that three forms of the responsibility system--contracting production to households, assigning output quotas to individual able-bodied laborers, and specialized contracts that link remuneration to output--would respectively suit our country's poor and backward areas, intermediate areas, and advanced areas. However, as things developed in practice, the household contract form developed in the communes and production teams in some advanced areas, while in some poor and backward areas the output remuneration form is vigorously practiced, and even within the same area where the levels of productive force are for the most part identical, the production responsibility system has become the antithesis to the past form of agricultural management and administrative known as "one knife for everything," i.e., rigid uniformity. The production responsibility system is suited to our country's multilevel agricultural productive force as well as to its multilevel management and administration. Its emergence and development was an objective necessity.

I. The Multilevel Nature of the Productive Forces Determines the Multiformity of the Responsibility System

Since the beginning of the construction of socialist collective agriculture in our country, production conditions have markedly improved and the production level has been greatly raised--this must be fully affirmed.

1. The degree of simplicity and complexity of production tools varies, as does the level of agricultural machinery. Some production is modernized, mechanized large-scale production, like some people's communes in the suburbs of a small number of large cities; some production is semimechanized, semimanual labor

production, like many communes and production teams in areas such as the southern plain of Jiangsu Province; and some production is completely manual labor production, and there even is still the primitive, backward slash-and-burn cultivation.

2. The cultural levels and the scientific and technological levels of the laborers, as well as their technical ability in production, vary. In some places where elementary school education and junior middle school education are universal, the commune members' level of scientific farming is fairly high, they can fairly well master and use new agricultural technology, and they are good at working on sideline occupations and running a diversified economy. In some places where the majority of the peasants have an educational level of lower primary school and above, but a minority of them are illiterate or semi-illiterate the raising of their level of scientific farming is not fast, their study and mastery of new technology is also limited; and there are still many places where educated people are in the minority and there is a lack of agro-technical talent, which seriously affects the raising of the level of scientific farming and the spread and use of new technology.

3. The labor objectives (including cultivated land, water areas, mountain forests, etc) are intrinsicly different and the degree of their exploitation and utilization are different, so the patterns and methods of production are also different. Take cultivated land for example. Not only are plains and lakeside areas different from hills and mountain areas, but the former is concentrated linked strips of land convenient for mechanized work and collective labor, while the latter is fragmentary, scattered pieces of land inconvenient for mechanized work and collective labor; and within plains and lakeside areas, becuase water power conditions and technical equipment will be different, the degree of the exploitation and utilization of cultivated land will also be different. In some places there will be gravity irrigation or electromechanical irrigation so that all the fields will timely be put under water to protect the harvest, and in still other places the peasants "depend on heaven for their food."

4. The degree of socialization and specialization of production varies. In some places the level of socialized production is quite high and there is a clear division of work and operations, and there has been initially formed a rural economic structure in which agriculture, forestry, animal husbandry, sideline occupations, and fishery are comprehensively developed and in which agriculture, industry, and commerce are comprehensively managed; in some places although the enterprises run by communes and production teams and the diversified economy have been developed, the specialized division of work is not clear and the relations between various departments and various trades are not very close; and in still other places single-crop planning is practiced, socialization and specialization of production is out of the question, the great majority of farmwork is suited to the work of individual laborers, with each household able to finish the entire process of crop production from sowing to harvesting, and thus between the laborers there are still simple work relations.

Since the agricultural productive forms are in this state of being multilevel and unevenly developed, the agricultural production responsibility system, which is a form of administering and managing a socialized, collective agriculture, must be adapted to these circumstances and take on multiple forms and cannot take as its model the past practice of "one knife for everything." For example, in the place where the three provinces of Hubei, Henan, and Anhui meet, the principal form of the responsibility system practiced by each province form of the responsibility system practiced by each province is different: The Zhangguanghe Commune in Macheng County, Hubei, practices the multiform responsibility system with emphasis on specialized contracts linking remuneration to output; and Henan and Anhui practice the multiform responsibility system with emphasis respectively on assigning output quotas to individual able-bodied laborers and on fixing output quotas based on households which assume full responsibility for task completion. Why is it that, in the same mountainous area where production conditions are approximately the same, the forms of the responsibility system practiced are different? This is because in Zhangguanghe Commune, Macheng County, the development of forestry and other parts of its diversified economy is faster than that of the communes in the neighboring provinces and is at a certain level of specialized production. Not only is this the case in one province, one county, or one commune, but it is also the case in one production brigade or one production team. In the No 8 Team of the Shafan Production Brigade, Huilong Commune, Huanggang County, Hubei, households are small and machines few, so agricultural production depends on the labor of men and animals. Proceeding from the local situation in agriculture production, and according to the different crop situations, they have carried out the multiform responsibility system with emphasis on assigning output quotas for field crops to individual able-bodied laborers: 1) for the summer grain crop (wheat), the form of contracting a job to be done in a certain period of time and of managing by quotas is practiced; for the summer oil crop (rapeseed), the form of 1 person per 1 fen of "edible oil plots" is practiced, i.e., every person tills 1 fen of rapeseed land for which he pays 1.5 yuan of land cost and receives 5 jin of edible oil; 3) for early and late paddy rich on large plots close at hand, the form of assigning output quotas to individual able-bodied laborers is practiced; 4) for early and late paddy rice on small plots far away, the form of contracting production to households is practiced; 5) for cotton, the form of 4 li [1 li = 0.666 square meters] of land per person with the person paying 1 yuan in land cost and retaining for himself 2 jin of cotton is practiced; and 6) with the exception of planted cotton, for 1 mu of dry land and several dozens of paths between fields, the form of contracting production to households, with full awards and compensation, is practiced. Looking at this situation in Huilong Commune, where this team is, and at the situation in Huanggang County, the forms of the multiform responsibility system that are primary are the assigning of output quotas to individual able-bodied laborers and the specialized contracting that links remuneration to output, and there are extremely few teams that practice the forms of quota management and household contract production. If one were to rigidly make this team the model for the whole commune and even the whole county, this would obviously be unworkable. Because in this team the level of mechanized work is low and the fields are relatively scattered, and within the whole commune and the whole country, the level of production forces is fairly high and different levels are formed, and so the forms of the responsibility system are not all identical.

From this one can see that the multilevel development of the productive forces, especially the level of production tools and technical equipmemt, plays the decisive role in the emergence and development of the different forms of the responsibility system. The productive forces determine the production relations, which mainly means that the forms of the means of labor such as production tools determine the forms of the ownership system and that the level of the technical equipment composed of the means of labor such as production tools determine the form of the organization and management of labor. Just as Marx expounded many times: "The means of production determine the labor organization." ("Complete Works of Marx and Engels," vol 31, p 236) "For the composition and division of labor, we look at the tools possessed for it and their differences. The division of labor determined by manual grinding is different from the division of labor determined by steam-power grinding." ("Complete Works of Marx and Engels," vol 4, p 163)

Of course, it is correct for many articles to cite the abovementioned expositions by Marx when stressing that with the difference in production tools the specific forms of the responsibility system are also not identical. However, we cannot make the decisive role of the difference in production tools absolute, and prove merely from the different levels of the production tools that the emergence of various forms of the responsibility system is an inevitability. Seemingly, the more advanced the production tools the greater the scale of the labor organization, and one can only practice a form of the responsibility system in which there are relatively many components of unified management and administration (like the specialized contracts linking remuneration to output). Conversely, if the production tools are backward the scale of the labor organization will be small, and one can only practice a form of the responsibility system in which the components of unified management and administration are few (like large-scale assignment of responsibilities). This conclusion is open to question. First, the emergence of many forms of labor organizations and of many forms of the responsibility system was the result of many factors and multiple effects. It is true the level of development of the productive forces is a factor that plays a decisive role, but the multilevel productive forces are not to be completely equated with the multilevel production tools. Looking at history we see changing factors affecting production relations (including the forms of management and administration), and these factors are certainly not merely the production tools. Take manual tools for example. Manual tools are used in small-scale production, as they also are in the initial stage of capitalism. The high-level agricultural producers' cooperatives set up in our country after the cooperative transformation of agriculture also used a large amount of manual tools. Next, that the production tools determine the composition and division of the labor organizations does not mean that the level of production is in direct ratio to the size of the labor organization or the number of unified management and administrative components in the responsibility system. Practice proves that following the raising of the level of production tools, the scale of a labor organization can either expand or contract. We must now focus on the following situation that people overlook.

II. The Multipliformity of the Responsibility System Is Suited to the Level of Multilevel Management

As we stated above, the agriculture production responsibility system with its many forms was the result of many factors and multiple effects. We hold that, in addition to the chief determining factor of the level of development of the productive forces, the other factors should include: the size of the production team, the degree of concentration and dispersion of where the commune members dwell, the laborer's understanding and desires, the level of the cadres' experience and management, etc.

Among them, the level of management and administration is a factor second only in importance to the level of the productive forces. The form of the agricultural responsibility system must be suited to the level of management and administration.

At the present stage in our country, the situation of management and administration in collective agriculture, like the situation in agriculture production, is at a level of development that is uneven and itself multilevel. 1. Looking at the methods of management and administration, we see that, owing to the differences in production tools and technical equipment and to the difference in the scale of production and the degree of production socialization, some methods are suitable for unified management and administration of a collective (like for large farm implements, large and medium-sized water conservancy installations, or enterprises, run by communes or production teams), some methods are suitable for dispersed management and administration (like for small farm implements and small water conservancy installations), and still other methods are suitable for separate household management and administration; some methods are suitable for the practice of the collective responsibility system, some methods are suitable for the practice of the individual responsibility system, and still other methods are suitable for the practice of a combined collective and individual responsibility system. 2. Looking at the capabilities of managers and administrators, we see that, owing to their different levels of education and technology and their different amounts of experience, there are fairly large disparities manifested in management. Some managers and administrators have a certain amount of scientific and technical knowledge and rich practical experience, so that they truly know the ins and outs of their tasks and can manage fairly well the plans, labor force, property, and materials of the people's commune as the basic accounting unit. And there are also some who are fairly lacking in educational knowledge and practical experience and who basically do not know the ins and outs of their managerial and administrative tasks, and thus their management and administration are in a state of confusion. 3. Looking at the characteristics of our country's agricultural production at present, we see that, owing to the fact that in many places the levels of mechanization, water conservation, and technology are fairly low, we must, proceeding from the actual circumstances in which agricultural production has a dispersed nature, seasonal nature, and cyclical length, adopt different labor combinations and management forms. For some characteristics suitable for centralized labor, unified management is practiced. For some characteristics suitable for dispersed labor, a combination of unified management and division work responsibility is practiced. For some characteristics suitable for individual labor, the individual responsibility system under unified management is practiced. Therefore, no matter whether we proceed from the multilevel productive forces or from the multilevel management and administration, under the premise of upholding the socialist ownership system with the rural people's commune as the basic accounting unit, we must practice many forms of management and administration, including forms of the responsibility system, and we must not rigidly adhere to one centralized, unified form, in order to even better improve the people's relations of cooperation in the course of production, promote the further integration of the laborer with the means of production, and to the greatest extent possible display the superiority of the socialist collective economy and arouse the production enthusiasm of the individual member.

As early as 20 years ago, Comrade Chen Yun pointed out: Under the guidance of state plans, there should be a diversity of forms in management and administration. He said: "We must correct in good time the mistaken course of action in which attention is paid only to centralized production and centralized management, and in which dispersed production and dispersed management is neglected." However, since 1958, what has mainly been practiced in our country's collective leadership is a highly centralized form of administrative management. It is prominently manifested in two aspects: First, the commune, the production brigade and even high-level departments practice highly centralized, unified administrative management over the production team. The commune and the production brigade represent the state's political power and issue mandatory plans to the production team, and impose equaliterian and indiscriminate transfer of the manpower, material resources, and funds of the production team. The production team is the purely economic organization of the kind there was in the period of cooperativization. Second, the production team also exercises highly centralized, unified administrative management over the commune members. The cadres of the production team not only control and manage the whole production of the team, including the planning, management, and harvesting of crops and the team's industrial and sideline production, but also control and manage the management and administrative measures for production and the distribution of income, down to that of the household sideline occupations of commune members. From looking at the above two aspects, we see that not only does this centralized, unified pattern of administrative management limit, with regard to system, the right of production teams and commune members to make their own decisions, but also the work involved in this kind of complicated centralized, unified management makes it hard for the cadres of communes and production teams, particularly the vast numbers of production team cadres, to be equal to their jobs. Precisely because the situation is like this, the great number of cadres and masses have all along demanded that this kind of single administrative management model, which is divorced from reality, be reformed and replaced by multiple forms of management and administration that are in accord with local natural conditions, economic conditions, and cadre management level. Stressing the significance of this, the emergence of multiple forms of the agricultural responsibility system over the past 2 years in our country is precisely a negation of the past pattern in our country of highly centralized and unified administrative management, and is also a product of the contradiction between the multilevel production, multilevel management and administration and the pattern of highly centralized and unified administrative management.

The new situation that has appeared in the development of the agricultural production responsibility system also proves: what kind of responsibility system a place practices cannot be divorced from the management and administrative level of that place. Generally speaking, in communes and production teams where the level of management and administration is high and the cadres' work style is also good, it is easy to practice unified management and the comparatively complicated form of the responsibility system represented by a method of output-linked remuneration (like specialized contracts); conversely, even if the level of productive forces is fairly high, more often than not we should choose unified management and the form of the responsibility system represented by a simple, convenient, and easy to carry out method of output-linked remuneration (like large-scale assignment of responsibilities to each household). In different areas where the level of productive forces is more or less the same, the effect of the level of management and administration on the choice and determination of the form of the responsibility system is even somewhat more obvious. We made a preliminary analysis of the situation of the agricultural production responsibility system in 10 countries of 4 prefectures (municipalities) in Hubei Province, and observed the following situation worthy of attention: 1. In counties and communes where the level of productive forces is comparatively high, because of problems concerning the management and administration level and the cadres' work style, the "double contract" form, i.e., fixing output quotas based on households and peasant households assuming full responsibility for task completion, of the responsibility system is practiced by a comparatively large number of production teams. 2. In counties and communes where the level of productive forces is fairly low, because the cadres possess a certain level of managerial and administrative expertise, the forms of the responsibility system practiced are specialized contracts and the assigning of output quotas to individual ablebodied laborers. 3. In counties and communes where the levels of the productive forces are more or less equal and the levels of management and administration are different, the main forms of the responsibility system practiced by each county and commune are not all the same.

To sum up, the conclusion is extremely clear: the many forms of the agricultural responsibility system are not only first decided by the level of the multilevel productive forces, but at the same time are decided by a given level of the productive forces being suited to the level of the multilevel management and administration. Admittedly, under given conditions the level of management and administration has a certain decisive effect on the form of the responsibility system, and is advantageous for correctly analyzing the conditions and reasons for the emergence and development in our country of the multiform agricultural responsibility system and for finding answers that conform to the actual situation.

As everybody knows, management mainly includes two aspects: 1) regulating the coordination between men and materials (the means of production), and organizing cooperation between man and man in the production process; and 2) regulating the relations between man and man, and managing the system and ideological-political work. We maintain that, with regard to these aspects, management should fall into the category of a productive force, and that not only does the combination of men and materials produce a productive force but also the cooperation of man and man in the production process forms a productive force, a kind of "collective force." In "Das Kapital," Marx many times employed the concept of "labor's social productive force" or "social labor's productive force," and what he was referring to was precisely the productive force produced from labor's social combinations, viz, coordination. Of course, in comparison with the ordinary meaning of productive force, the meaning of this productive force of management is relatively wide, and we can say it is a productive force in the broad sense of that term. In this sense, the decisive effect of the level of management and administration on the form of the responsibility system and the decisive effect of the level of the development of the productive force are identical. From looking at the course of development in both domestic and foreign agriculture, we see that the higher the degree of specialization and socialization in agricultural production, the greater the demand for scientific management and administration. This scientific management that we regard as a productive force, jsut like science and technology, not only has a great effect on the development of all the productive forces, but also directly affects the transformation of production relations. Therefore, in our current changing of the forms of rural management and administration and establishing of a multiform production responsibility system we cannot but pay attention to the important factor of the level of multilevel management in our country's socialized collective agriculture at the present stage.

III. Proceeding From Reality, Adhere to the Multiformity of the Responsibility System

According to the above analysis, proceeding from the level of productive forces as well as the level of the multilevel management in our country's collective agriculture, and under the premise of socialist public ownership of the means of production in our country's agriculture at the present stage, there should emerge a situation in which many forms of the responsibility system exist side by side, viz, both a collective responsibility system and an individual responsibility system; a lively situation which can both display the superiority of unified management of the socialist collective economy and also arouse the enthusiasm for production of the masses of peasants and individual peasants. Looking at the present time, if we are to do this, there are some theoretical and practical questions that must be studied and inquired into.

1. The question of the multiformity and multilevel nature of the responsibility system.

At present there is a relatively prevalent view, viz, the drawing up of specialized contracts linking remuneration to output is a high grade form of the responsibility system, the assigning of output quotas to individual able-bodied laborers is a middle-grade form of the responsibility system, and the "double contract" is a low-grade form of the responsibility system. We hold that the multiformity of the responsibility system is not to be equated with its multilevel nature. Although each form of the responsibility system has its advantages and disadvantages, and under different conditions the degree of advantage or disadvantage is also different for each form, it is difficult to say that the division of the forms into a number of grades is a scientific division. Marxism tells us that in a certain historical stage of society there is a certain production level suited to that stage and there can only be certain production relations, and in this there is no division into advanced and backward, high grade and low grade. The forms of the responsibility system fall within the category of production relations--without exception of course. Looking at the many forms of the responsibility system now practiced in our country, we see that no matter whether it is a form that is not a joint production form (like a contract for managing quotas and completing a job in a certain period of time) or a form of joint production, all of them have their own suitability.

If you want to rigidly differentiate what form is advanced, the criterion is suitability. Whatever form, at a given time and place suits the level of the productive forces and the level of management and administration, and is able to effectively arouse the enthusiasm of the great number of cadres and masses, is an advanced form; advanced and suitable are identical. For example, the form of the responsibility system in which there is a large-scale assignment of responsibilities not only is suited to the communes and production teams in some areas of our country where agricultural production is backward and the peasants have difficulties in their livelihood, but also has its suitability for some areas where the level of the productive forces is high or intermediate. It is a "form of the responsibility system universally suited to the entire country," but then how can we categorically assert that, based on certain of its limitations (like being small and complete), it is a low-grade form of the responsibility system suited to a low level of productive forces? Can we say that the so-called high-grade form of the responsibility system--specialized contracts--does not have a single drawback? Again, for example, we cannot rashly state categorically that the form of quota management and contracting a job to be done in a certain period of time is a low-grade, backward form; although it contains certain drawbacks in its method of management and remuneration, it also is not without its suitability. From the viewpoint of time, we see that, in the period of agricultural cooperativization and in the period following it, under conditions in which there were few items of production and the scale of management was small, this form emboided fairly well the system of distribution according to work and aroused the commune members' enthusiasm for production. Even now, some communes and production teams whose level of management is fairly high still successfully practice this form. From the view point of space, the fact that in the past in the greater part of the country this responsibility system was practiced, and that it is today still being practiced in a part of the country, shows that there is a rationality and progressive nature in its existence. Therefore, we must admit that the tendency in the agricultural economy is toward development of work division, coordination, specialization, and socialization. Based upon actual conditions, we can practice forms of the agricultural production responsibility system that are advantageous for specialization and socialization, but we cannot, separating ourselves from the level of the productive forces and the level of management and administration under certain historical conditions, divide the forms of the responsibility system into high grade and low grade, and abstractly talk about the advanced nature of the specialized contracts and the "backward" nature of the "double contract" and quota management forms. If we separate the forms from suitability and stress their advanced nature, we are bound to cause one-sidedness, do things poorly, and very possibly, consciously or unconsciously, return to the past practice of "one knife for everything" and the old path of having only one model. We must further study and comprehend this passage in the sixth plenary session's "Resolution on Certain Questions in the History of Our Party Since the Founding of the PRC": "The development of socialist production relations does not follow as one fixed model. Our task is, in line with the demands for development of the productive forces in our country, to create at every stage specific forms that are suitable for that stage and that make it easy to continue the advance."

2. The question of upholding the multiformity of the responsibility system under the principle of the socialist system of public ownership.

The premise for upholding the multiformity of the responsibility system is the socialist system of public ownership. A fundamental goal of our practicing the multiform responsibility system is to display to the greatest extent the superiority of the unified management of the socialist collective economy and to arouse to the fullest the enthusiasm for production of the individual commune members, so that the forms will organically combine to speed up the development of agricultural production and satisfy the people's daily increasing necessities of life. Viewing the present situation, there are two tendencies affecting the above-mentioned organic combination. One tendency is that the "leftist" pernicious influence is still making trouble, is still uniting and controlling too much, and no matter whether it is large or small farmwork, no matter whether it is sowing or harvesting, these ideas rise up and unite. This not only fetters the enthusiasm and creativity of commune members, but also, to a very large degree, obstructs the superiority of the unified management of the collective economy. The other tendency is to abandon leadership, holding that the joint production responsibility system must be mostly divided and little united, and even only divided and not united, so that the united is not united, so that, for example, the large and medium-sized farm implements, the water conservancy installations, the collective mountain forests and collective orchards, etc, all lack unified management. This way of one-sidedly stressing the strong points of dispersed management and individual administration overlooking the strong points of collective, unified management is disadvantageous to the display of the superiority of the collective economy, is disadvantageous to the rational use by the masses of commune members of machinery and water conservancy installations, to their effective utilization of various natural resources, and to their creation of even more financial resources. Therefore, if we want to maintain the position of the production team as the main part and give play to the combination of the superiority of the collective economy and the individual's enthuriasm, we must correctly handle the relationship between unity and division, uniting what is suitable to be united and dividing what is suitable to be divided. For the majority of areas in the country, the "unity" aspect should at least include unified plans, unified accounting, and unified deployment of manpower, and the "division" aspect should as far as possible take whatever items that can be managed and administered in a decentralized fashion and contract them out to manpower or commune member households. The specific conditions in various areas are different, and the degree and methods for unity and division are not of the problem of unity and division not only is an objective demand for further giving play to the superiority of the collective economy and to the enthusiasm for production on the part of individual commune members, but also is the key to whether the various forms of the responsibility system can develop healthily.

3. The question of the masses' desires and the choice of the various forms of the responsibility system.

In the majority of cases, whatever form of the responsibility system is welcomed by the masses at a given place conforms to the level of productive forces there as well as to the level of management and administration there. The choosing and determining of the form of the responsibility system to be adopted certainly must start from the degree of awareness on the part of the masses of people and from practical requirements, upholding the principles of voluntary participation and mutual benefit. In a minority of places, the masses demand that a form of the responsibility system be chosen and determined which suits local conditions, but because individual leaders are inclined to a certain form of the responsibility system, the form that suits the inclination of the leaders is mainly practiced there and the rational desire of the masses is not satisfied. In these places, if the problem of the leadership's ideological understanding is not solved, it will be very difficult to think of the multiformity of the responsibility system. There is another situation, viz, proceeding from the level of the productive forces as well as the level of the cadres' management, there is a given form of the responsibility suited to be carried out at a given place, but at this place either because the cadres' work style is not democratic or because of factional trouble between family heads, a considerable part of the masses demand that a form of the responsibility system that is not too suitable be carried out. Faced with this special situation, we should adopt the methods of persuasion and education and of demonstration of typical cases, brief the masses on the advantages and disadvantages of different forms of the responsibility system, and lead them to choose a comparatively suitable form.

9727
CSO: 4007/403

BRIEFS

PREFECTURE SUMMER CROPS--Chuxian Prefecture, Anhui, expects to reap 1.22 billion jin of wheat and 230 million jin of rapeseed this summer, 20 percent and 35 percent more than in last year respectively. The prefecture has had good harvests for 3 consecutive years. [OW191215 Hefei Anhui Provincial Service in Mandarin 1100 GMT 16 Jun 82]

CSO: 4007/447

POLICY ON PURCHASE OF FARM MACHINERY DISCUSSED

Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 1, 1982 p 4

["Farm Machinery Current Report" Column: "Several Policy Questions"]

[Text] The 1982 National Farm Machinery Products Purchasing Conference was held in Changzhou city, Jiangsu Province, 1 to 7 December. The vice minister of the Farm Machinery Ministry, Comrade Li Ben [2621 2609], spoke at the opening ceremony. He first talked about the nation's economic situation and the production and sales trends of farm machinery, the guiding ideology of the 1982 production plans and the principles of arrangement. He also expressed opinions concerning several policy questions. He said: In the opinion of the Farm Machinery Ministry, farmers can purchase farm machinery, and in particular, they can make joint purchases of farm machinery. But we must emphasize that this machinery must be used mainly for farming. The machinery can also be used as an aid for the individual in planting and processing and reasonable fees should be levied for its use, but such machinery cannot be shipped to far away places for sale. He said the business use of tractors for transport should be allowed. Agricultural transport constitutes about 50 percent of the total amount of work involved in agricultural production. The time required for transporting goods by tractor is much greater than the time required for planting in the fields. At present, many localities have unilaterally emphasized the prohibition of the use of tractors for business transport. This is an overly narrow understanding of agricultural transport. The line of separation between agricultural transport and business transport is not clear. We believe that agricultural transport should include: transporting earth, manure, and crops in the fields; transporting chemical fertilizers, farm chemicals and such production materials needed by the farmers; transporting coal, food grains and such materials for living; transporting building materials for building houses; transporting agricultural sideline products for submitting to the state; and transporting raw materials and products back to the commune and brigade enterprises. Comrade Li Ben also mentioned some administrative leadership departments in provinces, cities and autonomous regions which have established many regulations concerning purchases by farm machinery companies which prohibit them from purchasing superior quality products from other provinces and cities. This is a regional closed-door policy to protect the backward products of the localities. It is unfavorable to the readjustment of the farm machinery industry and we must oppose it firmly.

9296
CSO: 4007/267

BRIEFS

COUNTY RICE DISEASE--As of the end of May, rice blast had spread to Shaowu County's 38,000 mu of early rice. By adopting various measures, the county has now effectively controlled the rice blast. [OW141217 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 11 Jun 82]

DATIAN COUNTY FOOD GRAINS--In addition to planting enough major grain crops, Datian County, Fujian, has planted 75,000 mu of sweet potato, legumes and other miscellaneous food grains, 20,000 mu more than in last year. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 17 Jun 82]

CSO: 4007/447

PREVENTION, CONTROL OF INSECT PESTS IN STORED GRAIN

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 1

[Article by Storage Office, Provincial Grain Department: "Briefing on Several Grain Storage Pest Prevention Methods"]

[Text] Comrade Editor:

Ever since the Third Plenary Session [of the 11th Party Central Committee], great improvement has taken place in the lives of commune members, a small grain surplus gradually accruing. However, on the issue of grain management and storage, experiences and methods are still lacking, and grain in storage has been eaten by insects. My home is in Shangxiao Commune in Zhenyuan County. In mid-November last year when I returned home to visit relatives I discovered that a white (and yellow) powder had fallen beneath the corn that my family had hung up last year and the year before. Upon taking down the ears of corn and taking a look, I found that bugs growing in the corn had hollowed out the kernels causing a very great loss. Similar situations occurred in all the villages in the countryside where we live. Stored wheat also developed bugs and moths that caused varying degrees of damage. Will your newspaper please provide some scientific ways in which grain can be stored and cared for?

Zhao Mingru [6392 7686 0320], Dongxia Mine worker, Huating Mining Bureau

The damage caused to stored grain by insect pests is serious. Prevention and control measures of different kinds must be taken on the basis of their living habits and activities to achieve the goal of early prevention and early cure. Let us now relate several prevention and control methods for consideration by rural communes and brigades and the masses of commune members.

Prevention and Control Through Sanitation and Hygiene. Inasmuch as most insect pests in grain reproduce in damp, dark, and dirty places, in each and every step of the way from harvesting, to husking, to storage, to care, and effective job of sanitation and hygiene must be done. When removing husks, for example, the area must be swept clean, and all surrounding weeds, garbage, and stalks from which the grain has been removed eliminated. Wheat husks should be promptly taken away; the grain to be stored in granaries should be thoroughly sunned, ventilated and screened so that the grain will be dry, clean, and plump. Containers for storing grain and warehouses must be maintained clean and sanitary inside and outside to get rid of all hidden pests and prevent infestation.

Physical and Mechanical Prevention and Control. This means use of the grain's own natural physical properties and mechanical physical function to inhibit growth of insect pests to achieve the goal of eliminating them. Commonly used methods are as follows:

One is the use of high temperatures to kill bugs. Granary mites have a certain range of temperature to which they can adapt, and when temperatures exeed the maximum limits they require, they cannot tolerate them; their physiological functioning is destroyed or stifled leading to their death. In the case of newly harvested peas or wheat, for example, sunning under a scorching sun with the grains spread out to a 2 cun depth and turned once each hour will bring the grain temperature above 45°C. After 2 hours, it can be stored while still hot or placed in containers and later covered with clean straw mats or rush mats. Cloth bags filled with either clean wheat chaff or dry sand can be placed on top of the grain so the grain's temperature automatically drops. After being subjected to heat in this way, the protein in the bodies of the insects congeals causing death.

Second is drying to kill bugs. This entails use of a drying machine to kill bugs by eliminating water. When regulating the temperature and flow of various kinds of drying machines, usually an internal machine temperature of from 80 to 100 degrees centigrade is needed to bring the grain temperature to about 50°C, which will kill the bugs. But grain dried in a dryer has to be cooled before it can be stored; otherwise, unless the heat has been dispersed, calorific molding may accidentally occur.

Third is killing the bugs with cold. During the winter, select a cold, dry, clear day for removing bug infested grain to the outside. Spread it out to a depth of 2 to 3 cun when temperatures are at between 5° and 10°C below zero, turning the grain about once every 2 hours. Ideally this freezing should be done for 5 days and nights, and the bugs will freeze to death. After freezing, the grain should be ventilated and screened to get rid of the frozen and stiffened bugs. Then, while still cold, the grain should be stored in tightly closed containers. In this way all the bug larvae hiding in the grain can be frozen to death.

Fourth is ventilating and screening to eliminate bugs. By subjecting bugs and debris that are lighter than air to the airflow of a fan, they will be blown far away while the grain will drop nearby, and the goal of separating the grain from bugs and debris will be achieved. When bugs are larger or smaller than the kernels of grain screening can be done, the bugs and debris being eliminated by using screens with different size holes, the residue being concentrated in one place for burning.

Fifth, is the gland method. This method is used primarily in provention and control of moths. Since moths mostly lay eggs on the surface of grain heaps where they propagate to become a pest, the gland method may be used to control them. The gland method requires flatening tightness, denseness, and sealing so that adult moths cannot mate and so that there is no room to lay eggs, making reproduction impossible.

There is also the method of luring them to their death. Mostly this takes advantage of the pest's habits to lure it into capture or death. A case in point is the corn weevil [Sitophilus zea-mais], which has a habit of climbing. If straw is bound together to form a handle and the lower end is spread apart to form a parasol shape, and the thing is placed on top of grain, the pest will climb into the straw handle after which it can be burned and deeply buried. Moths usually are phototaxic so if a basin of water is placed on a grain pile in the evening and an oil lamp placed atop the basin, the pest will flutter toward the light and fall into the water and drown.

Oxygen Deprivation Prevention and Control. Dry the grain and store it in a container. After the container is full, seal it tightly to cut it off from outside air and use the physiological metabolic activity of the grain, pests, micro-organisms and such live organisms to gradually reduce the oxygen content of the grain and gradually increase its carbon dioxide content. This creates an oxygen deficiency or a low oxygen content throughout the grain so that the insects pests will be unable to survive. When oxygen concentration in the grain has been naturally reduced, a small amount of aluminum phosphate may be used to help kill the insects, namely 1 to 2 grams of aluminum phosphide per cubic meter. It should be placed in a small cloth bag and buried half a meter deep in the grain where it will serve to kill the insects within 10 to 15 days time.

Chemical Prevention and Control. This method uses toxic materials to directly or indirectly poison pests. It is both effective in killing insects and in preventing or controlling their spread, serving as both a method of prevention and control.

There are numerous chemicals available in the form of powders, liquids, emulsions, smokes, and gases. Each has its own characteristics. For example, powders are compounded from a mixture of a toxicant with pottery clay, talcum powder, and such inert materials. The smaller the powder granules the larger the area covered, the greater the opportunity for pests to come in contact with it, and the greater its power to kill or disable. Fumigating toxicants include chloropicrin and aluminum phosphide. They are characterized by a low boiling point, strong volatility, and the higher the temperature, the faster their spread. Use of these intensely toxic chemicals should be done with the help and guidance of technicians from food units; instructions for use should be strictly followed, and attention given to pertinent points to strictly guard against accidental poisoning of people, livestock, or grain.

9432
CSO: 4007/400

ORGANIZATION OF AFFORESTATION EFFORTS DESCRIBED

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 1

[Article: "Rapid Progress in Afforestation of Qingyang Prefecture. Clear Perception, Vigorous Action, Leaders Taking the Lead, and Making a Concerted All Out Effort"]

> [Text] Editor's Note: Qingyang Prefecture has done a good job of afforestation this spring and should be commended. Facts have shown that wherever leadership comrades have a clear perception, take vigorous action, and take the lead in work, afforestation proceeds quickly and results are good. It is hoped that all prefectures will now seize the season, will work ceaselessly and untiringly, and fulfill their spring season afforestation tasks.
>
> The four measures for growing seedlings now that the Qingyang CCP Committee has put forward are also very good ones, and can be provided to all prefectures for the lessons they teach.

As of the end of March, Qingyang Prefecture had afforested more than 210,000 mu or 77.8 percent of its afforestation quota for the year. Heshui, Qingyang, Huanxian, and Zhengning counties have already fulfilled more than 80 percent of their afforestation quotas for the entire year. The prefecture has also grown a total of more than 21,300 mu of seedlings. An overall survey of Qingyang Prefecture's afforestation situation shows it characterized particularly by great momentum, rapid progress, and good results.

First the broad masses of cadres and people fully understand the important significance of afforestation and actively devote themselves to this movement by all the people. Statistics show that 750,000 people from cities and town to rural villages throughout the prefecture have joined in the springtime afforestation movement. Arousal of the masses in Heshui County has been relatively complete; within the very short space of slightly more than half a month's time, the county has afforested more than 13,100 mu, overfulfilling its quota for the entire year. Xiangle Commune in Ning County was an advanced unit last year in Qingyang Prefecture, and this year plans call for afforestation of 8,000 mu, 9,849 mu of which was completed this spring.

Second, leadership cadres at all levels personally took part, working while giving directions in the frontlines of afforestation and effectively spurring on the masses. Heshui County CCP Committee secretary Wang Naifeng [3769 0035 1496], and county magistrate Hui Zhenxing [1920 2182 5281] personally surveyed plans and took charge of movement of seedlings. Ning County CCP Committee secretary Zhang Chongjian [1728 1504 0313] walked 60 li from Chengbeichuan to survey the afforestation situation. When he discovered that quality of tree planting was not high in a stretch between Waxie and Chengguan communes, he immediately made an on-site study in conjunction with comrades from the communes, and had the trees replanted. Numerous commune and brigade cadres went into the frontlines of afforestation, made prompt on-site inspections and criticisms, and solved problems, giving powerful impetus to the progress of afforestation.

Third was centralized planning with clear designation of key areas. Seven counties in the prefecture preliminarily designated 32 key communes for afforestation, each of which was charged with afforestation of more than 2,000 mu. The general plan was for one mountain and one ravine, lumped together in a continuous tract for centralized operations of centralized planning, the work being done in individual sections. The key points for afforestation in each county were relatively centralized in terms of leaders, workforces, planting of seedlings, funds, and technical forces.

Fourth was further carrying out of the "three fixeds" policy to promote afforestation and production. Since the lunar new year Zhengyang, Ning, and Zhengning counties newly transferred to commune members 103,600 mu of "three wastelands," and issued 15,800 forest rights certificates.

Fifth was conscientious investigation and handling of cases involving destruction of forests. Recently the prefecture has investigated and disposed of more than 700 cases of various kinds of forest destruction, and some counties and communes have also convened mass meetings to publicly handle, with great fanfare, cases involving destruction of forests in an attack on the evil tendency toward destruction of forests.

Simultaneous with spring afforestation, the Qingyang Prefecture CCP Committee required each county and commune to seize the favorable opportunity and use four methods for handling propagation of seedlings. First was use of state owned nurseries and commune and brigade forest farms for growing them. Second was contracting to individuals of production team reserve land for the growing of seedlings. Third was the signing of contracts with key households for the growing of seedlings. Fourth was requiring each commune household to grow one-tenth of a mu of seedlings.

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SPECIAL EMPHASIS DEVOTED TO COTTON GROWING

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 1

[Article by Cheng Jingli [7115 4544 4539] and Gao Guangcai [7559 1684 2088]: "Jiuquan Prefecture Diligently Implements Cotton Growing Plans. While Positively Not Relaxing Grain Production, Economic Crops Actively Developed"]

[Text] While stabilizing the grain growing area at 1.27 million mu, Jiuquan Prefecture has taken effective action to actively implement cotton growing plans. As of now, collectives and individuals have planted cotton on an area of more than 91,000 mu.

Jiuquan Prefecture is the province's main cotton growing area. While readjusting the internal structure of agriculture and arranging crop patterns, counties and communes have diligently and equitably put into effect state plans for the area to be sown to grain. Last winter and this spring they perfected and consolidated responsibility systems and signed agreements linked to cotton output with commune members, thereby designating the households and the land for the planned growing of somewhat more than 87,000 mu of cotton and setting up a system of rewards and penalties. In addition to fulfilling cotton growing area plans, the Huancheng, Nancha, and Xihu communes in Anxi County also mobilized commune members to grow more than 1,300 mu of cotton on their private plots.

By way of assuring increased output of cotton, the Cotton and Livestock Products Company and the Supply and Marketing Cooperative paid an advance against anticipated cotton production to communes and brigades. Agricultural science and technology units at all levels went into communes and brigades to conduct 127 runnings of agricultural science and technology courses. They taught the mixing of cotton seeds in pesticides, farming techniques, prevention and control of diseases and insect pests, the "five major prunings" and such techniques, 783 technical personnel receiving the training.

9432
CSO: 4007/400

CHICKEN RAISING EMPHASIZED AS FIRST STEP TOWARD ECONOMIC DIVERSIFICATION

Lanzhou GANSU RIBAO in Chinese 5 Apr 82 p 1

[Article by Gao Guangcai [7559 1684 2088] and Fan Yongyi [2868 3057 5030]: "Combination of Farming, Livestock Raising, and Processing To Make Rural Economy Prosper. Jiuguan Prefecture Resolutely Changes Inequitable Agricultural Structure"]

[Text] Following a summary of experiences, Jiuquan Prefecture has resolutely changed its inequitable agricultural structure. While guaranteeing fulfillment of state commodity grain quotas, it has taken the road of simultaneous development of grain and livestock in a combination of farming, livestock raising, and processing in order to promote large scale development of the rural economy.

Jiuquan Prefecture is one of the major commodity grain bases in Gansu Province. Conditions here are suited both to the growing of grain and to development of economic diversification. During the past 2 years, some representative communes and brigades with all around increases in output and earnings have come into being. The Prefecture has decided that while guaranteeing fulfillment of state commodity grain quotas, it will change the old methods of the past of relying on sales of excess grain and take the new road of simultaneous development of grain and livestock in a combination of farming, livestock raising, and processing.

In order to do this, it has put forward four specific actions to be taken. One is to give support to development of key households and specialized households for the raising of livestock and poultry in an effort to increase peasant earnings from the breeding industry throughout the prefecture. Second is to guide commune members in good farming practices on their private plots, on land devoted to the growing of animal fodder, and on forest and grass lands. Third is concentrated emphasis on the "four plantings" (of cotton, soybeans, grapes, and compound grasses [5112 0678 5430], the "four raisings" (chickens, hogs, sheep and goats, and rabbits), and the "four processings" (pressing oil, compound livestock feed, bean products, and sewing), and the "one circulation" (development of collective businesses) in an effort to outstandingly increase earnings this year from economic diversification. Fourth is funds for development of economic development, most of them to be taken from commune and brigade collective accumulations while at the same time encouraging commune members individually to invest in shares for the running of joint operations.

Before spring farming got underway, the prefecture held a series of rural work conferences to discuss these measures and to unify understanding about them. Once spring farming got underway, leadership comrades at the prefecture and county levels went down into the frontlines to supervise, encourage, and inspect, and to put planting plans into effect on production teams and households. In addition, they adapted general methods to local situations, gave tailored guidance, and began to establish more than 30 individual economic diversification bases in order to assure fulfillment of plans for "hot-selling" products. Focusing on the weak link of the breeding industry in the prefecture, they proceeded from the basis of overall planning to make a breakthrough in chicken raising. County and commune leadership and specialized cadres, led by an assistant director, made the rounds of 18 hatching points, held on-site discussions, and made on-the-spot decisions, very quickly putting to work more than 2,000 key chicken raising households and specialized households. This spring the prefecture hatched 600,000 fine quality eggs from more than 400,000 hatch chickens. Counties and communes, communes and brigades, brigades and households signed contracts level by level for the hatching and feeding of chickens, and received support in funds, feed, and techniques.

9432
CSO: 4007/401

BRIEFS

JIUQUAN PREFECTURE FARM MACHINERY--The eight farm machinery enterprises in Jinquan Prefecture, Gansu Province, actively implemented the policy of readjustment, improved business management, changed the business management method, and readjusted the structure of products. They actively expanded light industrial and civilian machinery products, developed diversification, contracted work to process incoming raw materials, and at the same time, implemented various forms of the economic responsibility system and realized good results. In 1980, the total production value of the whole prefecture surpassed the annual plan by 38 percent, realized a profit of 329,000 yuan, and created the best profit level of the past. From January to August of 1981, the total value of industrial production completed reached 3.18 million yuan, constituting 71.6 percent of the annual plan and a profit of 100,000 yuan. The 1981 profit goals were realized with a surplus 4 months ahead of schedule; every enterprise realized a profit and suffered no losses. [Text] [Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 1, 1982 p 5] 9296

SEED PLANTING HOUSEHOLDS INCREASE--Tianshui Prefecture seed units at all levels have vigorously developed seed growing households this year and signed technical contracts early with seed growing households for experiments with fine seed varieties, for bumper yield demonstrations, for fine seed propagation, and for extension of seeds to use in farming. Now the number of seed growing households in the prefecture has grown to 6,657 households, three times more than last year. Last year, Ping'an Commune in Zhangchuan County designated 181 households as fine variety propagating households for "xiaobaihua" potatoes on an area of 188 mu. Results were a yield averaging 3,076 jin per mu from the propagating fields, a 1.64 fold increase per mu as compared with local variety, "Changshu No 4." This year this commune has required an increase to 293 in the number of households undertaking propagation of fine variety, "xiaobaihua" and an expansion of the growing area to 300 mu. The propagation area in the prefecture for "Zhongdan No 2" fine variety corn has also been increased from last year's somewhat more than 40,000 mu to this year's 140,000 mu. [Text] [Lanzhou GANSU RIBAO in Chinese 5 Apr 82 p 2] 9432

CSO: 4007/401

BRIEFS

PEASANTS' INCOME INCREASES--In Guangdong Province, the rural economy has quickly improved and peasants' income has remarkably increased. In the province, the total income of rural communes, not including fishery communes, last year was 23 percent more than in 1980 and the income distribution to commune members was 28.3 percent more than in 1980. The per capita income distributed by the collective was 130 yuan, 26.2 percent more than in 1980. The per capita income of commune members derived from household sideline production was 85.7 yuan. Thus, the per capita income in rural areas in the province last year reached 215.7 yuan. [Text] [HK101417 Guangzhou Guangdong Provincial Service in Mandarin 100 GMT 8 Jun 82 HK]

CSO: 4007/453

SOME THOUGHTS ON DEVELOPMENT OF FORESTRY IN GUIZHOU

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 2, 1982 pp 41-43

[Article by He Tingxian [6320 1649 7359], Guizhou Provincial Department of Forestry: "Cursory Remarks on the Issue of Making Most of Guizhou's Forestry Industry Advantages"]

[Excerpts] Guizhou Province has extremely abundant forestry resources. A discussion of major kinds of trees follows.

One is China fir. China fir is the tree principally used for lumber in Guizhou, accounting for between 70 and 80 percent of commodity lumber over the years. Guizhou has a long history of growing China firs, the regional distribution of which is very widespread. Ninety percent of the province's counties produce China fir.

One of China fir's outstanding characteristics is its rapid growth. It reaches maturity in 10 to 20 years and is a rapidly growing variety of tree in Guizhou. A survey of 44 base forest sites shows 11 year old China fir reserves to average 15 cubic meters per mu, the minimum being 10.57 cubic meters and the maximum being 19.3 cubic meters.

Still another China fir characteristic is good quality lumber with high utilization value. Guizhou's "nursery stock" has long enjoyed brisk sales both at home and abroad, and is very competitive. Right now a China fir coffin commands $1,500 in the Hong Kong market. In China markets, 1 cubic meter of China fir has a value of 400 yuan and can be exchanged for 2,000 jin of rice.

Second is tung oil trees. Guizhou Province's tung oil tree output is second only to that of Sichuan Province putting it in second position nationally. It is a traditional Guizhou export commodity that has always enjoyed a high reputation in international markets. Guizhou Province's tung oil trees have an 87 percent commodity rate and a 34 percent foreign exchange rate.

Tung oil trees possess strong adaptability, fruit early, and provide many benefits. The peasants praise them saying, "If a family has 1,000 tung oil trees, its sons and grandsons will never be poor." Currently more than 60 counties grow tung oil trees over an area totaling 4.2 million mu. During the past 3 years state procurement of Guizhou tung oil tree seeds has averaged 130 million jin, 67 percent of the gross output value of economic forests.

Third is raw lacquer. Guizhou Province's raw lacquer output now ranks fourth in the country. It is a renowned traditional Chinese export commodity. Seventy counties in the province produce lacquer, most of it in Bijie Prefecture. Dafang County's lacquer has a pungent smell and fine texture; it is called "genuine lacquer." "Genuine lacquer's " quality is the best in the country and renowned both in China and abroad. It is sold widely in Japan and the countries of southeast Asia. People say that "genuine lacquer is as clear as oil; it's brightness reflects a person's head; its color flashes like the stripes on a tiger; and it calls to mind fish hooks." Raw lacquer has high economic value. Export of 1 jin of raw lacquer is equivalent to 105 jin of wheat. Growing of 1 mu of raw lacquer is the equivalient of growing 6 mu of wheat.

Development of forestry plays an important role in maintaining ecological balance in developing agricultural production, and in improving the lives of the people. The forest cover rate in Qiandongnan Autonomous Zhou is 27.7 percent. For every mu of cultivated land there are 4.4 mu of forest shelter; consequently erosion is less than 10 percent. Paddyfields account for 75 percent of the zhou's cultivated land area; the effective irrigation rate is 56 percent; the assured irrigation rate is 42 percent; drought rarely occurs; and grain outputs are relatively high and relatively consistent. Between 1971 and 1978 three great droughts occurred, yet grain output for the zhou as a whole increased by 211.19 million jin, a 14.4 percent increase. In seven key forest area counties (Liping, Rongjiang, Congjiang, Mianping, Tianzhuang, Leishan, and Jianhe), average extent of increase was 26 percent, which was 11.6 percent higher than for the average rate of increase for the zhou as a whole. The greatest increase in output occurred in Rongjiang County, which had a 39 percent increase.

Guizhou Province's forest cover rate is only 14.5 percent. Calculations made from hydrological data show an annual discharge into the Chang Jiang and the Zhu Jiang of more than 61 million tons of silt for the province as a whole (in 1978 it was 79.6 million tons), or an average 1.3 tons per mu of cultivated land. This means an accumulated loss of 26 tons per mu for the past 20 years, equivalent to the denuding of the soil's surface horizon to a depth of 1 cun. This runoff of silt contained more than 480,000 tons of nitrogen, phosphate, and potash, more than the province's annual output of chemical fertilizer. As a result, the area of infertile soil increases year by year. Accoring to the first soil survey done in the Qiandong Autonomous Zhou in 1959, infertile soil accounted for 20 percent of the zhou's cultivated land area. Survey statistics from the second soil survey in 1976 showed infertile soil to account for 42 percent of the zhou's cultivated land area, a more than onefold increase. In the 15 year period between 1961 and 1975, as a result of the destruction of forests to clear land for agriculture and soil erosion, rock mountains in Qingzhen County increased by 77,470 mu, accounting for 3.5 percent of the total area. Still another characteristic of Guizhou Province's natural geography is a karst topography area of more than 70 percent. In most places atop the limestone is a layer of sandstone, sandy shale and Quarternary Period clay cover. When these areas have no forest cover, the underlying limestone very quickly becomes exposed to form "barren land." Limestone is extremely resistant to weathering, and its weathering to form soil takes a geological age. If the ecological environment of this more than 70 percent of the area continues to deteriorate, without doubt the very existence of the people will be threatened, and they will suffer the penalty of nature. Guizhou Province is also situation on the eastern escarpment of the Yunnan-Guizhou Plain where the water system is spread over a wide area. Consequently, the natural ecological balance of the forests not only functions to influence the province's agricultural and livestock production, but also influences the industrial and agricultural of the middle and lower reaches of the Chang Jiang and the Zhu Jiang. The silt content of the Hongshui River in Guizhou Province is second only to that of the Huang He. This poses a severe threat to the middle and lower reaches of the Zhu Jiang. As a result, making the most of Guizhou Province's forests, expansion of the forest area, and maintenance of the natural ecological balance poseess extremely great importance.

3. Several Problems Urgently in Need of Solution in Making the Most of Forestry

First of all it is necessary to currectly understand and correctly handle the relationship between grain and forests. At the present time the contradiction between forests and grain is conspicuous. Right now some places are uanble to very well make the most of forestry's advantages. They are frequently preoccupied with grain problems and fear that forestry will impair grain production. Guizhou Province has a large population relative to cultivated land, and yields per unit of area are low. In some mountain regions, each person has only several tenths of a mu of cultivated land, but there are 10 mu or several tens of mu of barren mountains per capita. This situation demands that we do a good job of scientific farming, increasing total grain output by increasing yeilds per unit of area. It also requires that we keep our eyes on widespread use of mountainlands for the development of forestry lumber, and forest byproducts that can be exchanged for grain. Because commune member food rations are inadequate in the forest region of Jinping County, annually 10,000 mu of forest are destroyed and the land cleared, and 2,000 mu of forests are destroyed to make farmland. In 1980, with policy permission, 2,000 cubic meters of timber outside plan were exchanged with other provinces for more than 4 million jin of rice to supplement commune member rations in forest areas and the destruction of forests greatly decreased.

Second is emancipation of the mentality and liberalization of policies. For forestry to advance, principal reliance will have to be placed on arousal of peasant enthusiasm. The main problems in our present policies for handling lumber and characteristic native sideline products are fairly heavy uniform purchase and requisition purchase quotas with virtually stifling control. Thus, one current major problem in making the most of forestry's advantages is further emancipation of the mentality and liberalization of policies. So-called liberalization means self-determination under guidance of the state plan in forestry production, with definite distribution rights for products.

Once state plans or contract quotas have been fulfilled, policy should permit self-determination in how excess timber and forest by-products are handled, so they may be exchanged for needed production and consumer goods.

Privately retained mountains act as a supplement to the socialist economy and posses extremely important significance of satisfying commune member livelihood needs, for hastening afforestation, and for protecting the fruits of collective forest operations. The Guizhou Provincial CCP Committee and Provincial People's Government have ruled that wherever conditions permit, 3 to 5 mu may be designated as privately retained mountain for each commune and brigade household. Where more barren mountains exist, more land can be so designated. There are about 20 million mu in the province that should be designated privately retained mountainland. Privately retained mountainland, first of all, requires not investment by the state; and, secondly, without any undue bother on the part of the collective within 2 or 3 years these barren mountains and wasteland slopes will begin to be afforestated.

Third is overall planning and equitable distribution. To make the most of advantages forestry offers, matters must be handled in accordance with natural and economic laws with adaptation of general methods to suit local situations, strongpoints highlighted, and major efforts made to build commodity forest bases. Building of such bases requires specific scientific plans. The turnover period for forestry production is long, so it will not do to have only short range plans; long range plans will be needed too. Moreover, once a plan has been formulated, it should not be lightly changed. If one-fourth of the province's existing more than 100 million mu mountain area suited to the growing of forests were to be alloted for the building of high standard commodity lumber forests and economic forest bases for the production of tung oil trees, raw lacquer trees, Chinese tallow trees and tea oil trees, and if they were intensively farmed in the same way as grain is grown, being given meticulous care, the value of economic forests and fast growing timber forests per mu would be three to seven times greater than the value of 1 mu of farm crops. The value such bases created would be, at minimum, equal to that of the province's 30 million mu of cultivated land; mountain regions would prosper very quickly; and the economic income of the province as a whole would greatly increase. The masses say it well when they say, "The way to bring prosperity is to develop the province's forestry."

Fourth is to take the integrated route of operating integrated forestry, industrial, and commercial enterprises. Throughout the province 39 integrated forestry, industrial, and commercial enterprises have been operated by state owned forest farms by themselves or in conjunction with neighboring communes. Another 18 integrated forestry, industrial, and commercial enterprises have been operated jointly by communes and brigades in mountain regions. Though the trial run period has not been very long, prospects for this new thing have unfolded before our eyes and a very large number of advantages have become evident. One is that they help implement a program based on forest farming to advance forest production and improve the material living standards of the masses. Second is that they help make full use of forest resources, save timber, support national construction, and satisify the needs of people's livelihood. Third is that they help strengthen centralized management of forests in a change of the current administration by many different units and the situation of rampant cutting and denudation. Fourth is that they help use economic methods to include commune and brigade forestry products in forestry, industrial, and commercial enterprises; they centralize processing and use; and they strengthen the collective economy. Fifth, forestry units are able to earn a fair profit, which helps expand forestry reproduction. In short, development in the direction of comprehensive forestry, industrial, and commercial operations is a trend in the modernization of forestry and an objective requirement for economic development.

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LEADERSHIP FOR FIGHT AGAINST DROUGHT STRENGTHENED

Chijiazhuang HEBEI RIBAO in Chinese 14 Apr 82 p 1

[Article: "Cangzhou Prefecture Cadres, Masses Cooperate to Fight Drought"]

[Text] In Cangzhou Prefecture, the key issue of setting up rural grassroots leadership teams has been ferociously taken in hand to do a solid job of the "one resistance and double contracting systems" [a system of fixing output quotas on households and a system of peasant households assuming full responsibility for task completion]. As of now the prefecture has already watered 1.65 million mu of land that was not plowed following the last harvest. This is more than 1 million mu more than was watered during the same period last year.

In more than 700 production brigades, the unplowed land has been given one spring watering, and more than 70 communes have watered more than half the land. The pace of fertilization, cultivation, and hoeing of wheatfields has also been faster than during the same period last year. By way of solving problems of "decentralized organization, chaotic ideology, and fatuous work style" in rural grassroots leadership teams, the Cangzhou Prefecture CCP Committee and government administrative offices launched a campaign of "one resistance and double contracting," and too three actions as follows: First was maintaining virtually stable the grassroots cadre corps. This meant that the "four kinds of people," and the "three kinds of people" had to be resolutely done away with. Where readjustment of a small number had to be made, the readjustment was strictly attended to. Cadres who had been promoted overly fast but did their work well did not necessarily have to be readjusted. When no readjustment of others was required, leaders explained matters clearly to them face to face so that they could be free from anxiety and devote themselves to their work. Second, each echelon set up responsibility systems for level by level action. Responsibilities were strictly and impartially defined; rewards and punishments were clearly delineated; the advanced were commended, and the laggards helped to advance. Third was strict attention to solving the matter of production team cadres abandoning their responsibilities. Following reorganization, these leadership teams actively led the masses in launching struggle against drought to hasten the pace of the fight against drought.

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CONDITION OF WHEAT SEEDLINGS, HARVEST PROSPECTS EXAMINED

Shijiazhuang HEBEI RIBAO in Chinese 8 Apr 82 p 1

[Article: "Wheat Seedling Situation Takes Favorable Turn, but Only Continuation of Intensive Care Can Win Bumper Harvest. Deputy Director of Provincial Bureau of Agriculture and Agronomist Gong Bangduo [7895 6721 6995] Talks About Technical Care of Wheat at the Present Time"]

[Text] Recently specialized technical cadres from agricultural bureaus and in the four prefectures of Handan, Xingtai, Shijiazhuang, and Hengshui and from the Provincial Crop Institute formed a southern area wheat examination team for the examination of current wheat seedling growth and care, and to put forward ideas for future technical care. Now I will talk about the following several views:

Thanks to early action in spring wheat care, to strict attention, and to good care, great changes have taken place in wheat seedlings since they greened up, and everywhere there has been a turn for the better. Right now the seedling situation approaches that of the same period last year. This is demonstrated in three ways: First is early greening up, numerous new tillers, and fairly rapid growth of plant colonies. Generally, greening has occurred about 10 days sooner than last year; the number of tillers has increased by from 100,000 to 200,000 per mu as compared with before the onset of winter, an average of 150,000 per mu. As compared with last year, the gap between wheat plant colonies has become increasingly small, and some have surpassed last year. According to statistics from Handan, Shijiazhuang, and Hengshui prefectures, before the onset of winter last year, but by the time growth got underway, they were only 20,000 fewer. Reports from four prefectures indicate that in 17 counties the wheat seedling situation is currently somewhat better than last year; in 16 counties it is about the same as last year; and in 18 counties somewhat poorer than last year. A look at the situation in four counties shows the total number of tillers during the winter to have been 180,000 fewer than in 1980, but only 53,000 fewer now. A look at the situation in 12 production brigades shows tillering to be about the same or slightly better than in 1981. Second is maintenance of greenness throughout the winter, light freeze damage, and few dead seedlings. Last year the wheatfield area in which the dead seedling rate was more than 10 percent in the four prefectures covered 3.18 million mu, but this year, as of now, the dead seedling areas covers only

210,000 mu. In four counties last year the dead seedling area covered 217,000 mu, but this year there are virtually no dead seedlings. Third, the differentiation period for wheat has been protracted. This helps formation of large spikes and an increase in the number of grains. Since the greening up stage came early this year and temperatures tended to be low again during the last half of March, the spikelet differentiation period was lengthened. In addition, there was little depletion of soil fertility before the onset of winter and quite a bit of nitrogenous and phosphate chemical fertilizer was applied, so reserve strength is available for the wheat, and the number of spikes and grains may increase.

Though beneficial factors have been fairly numerous and changes in seedling condition fairly large since the lunar new year, some problems also exist that must arouse a high degree of serious concern. One is that the drought situation is presently very serious. Though it rained several times this spring, in most places the amount of rainfall was not great, generally less than 20 millimeters. For a considerable portion of the wheat, soil moisture conditions are very poor. Water content in dryland wheat soil that has not been watered is less than 10 percent. For soil watered once during the winter, water content is also only 12 to 13 percent, posing serious threat to wheat growth. In addition, because above ground water sources do not suffice and the ground water table has fallen, the wheatfield area that can be watered and the frequency of watering will be seriously affected. A second is that though wheat colonies are about what they were last year, growth of individual plants has been rather poor. Wheat tillering this year has been characterized by much spring tillering and little winter tillering; numerous small tillers and few large tillers; little secondary root growth, and a possible drop in the tillering and full heading rate. Consequently maintenance of last year's number of spikes per mu will also be very difficult. A third is wheatfield care has been uneven from place to place. Some places got started late and progress has been slow. They have yet to finish the first watering, and their wheat care tasks are very great. Therefore, the task of winning a bumper wheat harvest this year will be a very arduous one.

The winning of a bumper summer harvest will require continued efforts and genuine improvement in mid and late season wheat care. In view of wheat seedling condition and problems that may crop up, wheat field care during the mid and late season will particularly require attention to "one combat," and "two improvements." The two improvements mean improvement in the spiking rate and improvement in the fruiting rate. Now let us propose several points for care during the jointing season.

First is timely watering for jointing. Measurements show that during the jointing season, wheat's need for moisture suddenly increase to three times the volume of water consumed during the greening season. The volume of water needed from the jointing to the spiking stage amounts to one-third the total water requirements. There can be no stinting on water during this period. If water is lacking, the spiking rate and the fruiting rate will decline. Experiments conducted by the Hengshui Prefecture Institute of Agricultural Science show that when watering has been done only once, a watering for jointing increases yield by 62 percent; water for spiking increases yield by 20 percent; water for greening up increases yield by 18 percent; and watering during freezing weather increases yields by 16 percent, yield increases from watering during jointing being most spectacular. Therefore, no matter whether the wheatfield is a high yield, medium yield or low yield one, all available means should be used for timely watering during jointing.

Secondly, during jointing, topdressings of fertilizer should be applied in accordance with seedling conditions. During jointing, seedling conditions vary very greatly and early deterioration is to be guarded against, as is continuation of the vegetative growth stage without entering the reproductive growth stage, and late ripening. Top dressings of fertilizer should be given according to the "three regards," namely regard for soil fertility, regard for fertilizer formerly applied, and regard for wheat appearance and growth. When soil fertility is poor, little fertilization given earlier, and wheat seedling growth weak, some chemical fertilizer may be applied. When soil fertility is good, much fertilizer was applied earlier, and seedlings are growing well, only a slight amount of fertilization should be done. It is necessary to understand the right time and the right amount to prevent topdressings that come too late or in overly large quantities resulting in continuation of vegetative growth and late ripening, with damage from hot dry winds in the late stage, which is bad for increasing grain weight.

Third, late and weak seedlings generally develop late, mature late, and are prone to the bad effects of hot dry winds, which cause a loss of grain weight. Therefore, it is necessary to do more cultivating and hoeing to increase ground warmth so as to promote early development and rapid growth of the wheat seedlings.

Fourth is attention to prevention and control of wheat diseases and insect pests. According to a provincial insect forecast, a large incidence of wheat aphids is likely this year, requiring a high degree of attention. In addition, precautions should be taken against red spiders and wheat rust. Should they suddenly occur, they should be brought under control at once. Diseases and insect pests should not be allowed to impair the per 1,000 grain weight and reduce yields.

In addition, because of the seriousness of the drought, increases in yields will depend primarily on watering, so full advantage should be taken of watering. Special attention should be given to watering and care of wheatfields. In irrigated lands emphasis should go to tapping potential for increased yields from medium yield counties, medium yield communes, medium yield brigades, and medium yield plots. A look at the situations examined on this occasion shows that in all medium yield brigades that implemented responsibility systems, the wheat seedling situation was better than during the same period last year. Water conservancy conditions in these brigades were pretty good and potential for increased yields was fairly large.

However, right now levels of output are fairly low and scientific farming levels are poor. With further improvements in responsibility systems, increase in the level of scientific care for wheat, and attention to implementation of conventional technical measures for tending wheat, a fairly great increase in yields can be obtained.

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NEED FOR COLLECTIVE ACCUMULATION, WITHHOLDINGS STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 14 Apr 82 p 1

[Article by Liang Yuncai [2733 0061 2088]: "Do a Good Job of Collective Withholdings for Expansion of Agricultural Reproduction"]

[Text] Recently we conducted a survey in some of the counties in the province on how to further improve and perfect agricultural production systems of responsibility. In the course of the survey, we discovered a general disregard for the role of production teams in the collective economy and a lack of attention to collective withholdings. For example, in some production teams practicing a responsibility system whereby peasant households assume full responsibility for task completion, collectively owned property had been divided up. In an overwhelming majority of production teams, when year end distributions were made little was withheld for the collective. No withholdings of public accumulations funds were made for expansion of reproduction and no public welfare funds were withheld for improvements and increases in worker cultural welfare facilities. This has seriously impaired the consolidation and development of the collective economy of people's communes, and hurt progress in expanding agricultural reproduction.

These problems have many causes, but the main one is that some rural cadres suppose that with the practice of a system whereby peasant households assume full responsibility for task completion, commune members can "continue to revolve by themselves without being greased," and that there is no longer anything for cadres to do. Consequently, they let go and do nothing further. Some of the masses suppose that following assumption by peasant households of full responsibility for task completion, it is a case of a blind man playing a violin, i.e., fending for oneself, and that production teams are no longer useful. These problems are largely a reflection of a small-scale agricultural economy mentality of self-sufficiency.

One has to fully understand that following the practice of responsibility systems whereby peasant households assumed full responsibility for task completion, production teams became a collective economic organization that continued to be responsible for organizing and managing production with authority to distribute the fruits of production, and that they are important integral parts of the collective economy of people's communes. Doing a good job of collective withholdings and strengthening and consolidating the collective economy of people's communes is of extremely major significance for development of agricultural production and for the modernization of agriculture.

Objectively speaking, the responsibility system whereby peasant households assume full responsibility for task completion with workers carrying on small-scale decentralized operations is necessary for developing the level of productivity. However, its historical limitations should also be appreciated, and particularly that from a long-range point of view it restricts agricultural development to a certain extent. Consequently, in practicing agricultural responsibility systems, and particularly when production teams institute responsibility systems whereby peasant households assume full responsibility for task completion, the responsibility systems should function to consolidate the production teams' collective economy and to strengthen the collective economy.

Good performance in collective withholdings is a major way in which to consolidate and strengthen the socialist collective economy and to bring about expansion in agricultural reproduction. Collective withholdings are a part of the collective's centralized distributions. They are an important integral part of the correct handling of material benefit relationships among the state, the collective, and individual workers; they are a manifestation of workers' common benefits and long-range benefits; and they are a major source of funds for production teams' collective accumulations for the expansion of reproduction. Only when collective withholdings are properly handled can the collective economic forces steadily be consolidated and strengthened, and worker confidence in taking the collective road be strengthened.

There is no denying that responsibility systems have effectively solved the problem of "eating out of a large common pot," and have aroused the enthusiasm of workers. If along with the steady perfection and improvement of responsibility systems there is no increase in collective accumulations and no efforts to add new means of production or adopt and promote advanced techniques, the positive role of responsibility systems will gradually dissipate, and worker enthusiasm will also be impaired and limited, causing the pace of agricultural production to slacken. Therefore, in the development of agriculture, it is necessary to rely both on policies and on science. Reliance on policies stirs the enthusiasm of both the collective and in individual workers; reliance on science further emancipates and develops productivity. The widespread use of science and technology can promote tremendous development of productivity. In order to develop science and improve production capabilities, a certain amount of funds are required, and this requirement means steady accumulations.

In a system of responsibility whereby peasant households assume full responsibility for task completion, in order to get the workers to accumulate products surplus to their consumption requirements, collective withholdings are necessary. Only when a good job of collective withholdings is done can expansion of reproduction be assured.

A look at the substance of collective withholdings shows a five part content. First is the portion used to make up for the means of production that have been consumed. This is withheld in the form of depreciation allowances. Second is the additional part of accumulations needed to expand reproduction, which is withheld in the form of public accumulation funds and is the major source of funds for production teams to expand reproduction. The third portion is production expenses withheld to sustain reproduction in future years. The fourth portion is a reserve fund for use in meeting unfortunate accidents or natural disasters. The fifth portion is livelihood welfare funds and insurance funds established to satisfy the workers' common needs and for those who have lost their ability to work. This portion is withheld in the form of public welfare funds. The amount of each portion is decided on the basis of prevailing production team and worker financial strength and experiences over the years. We are against using a method whereby worker consumption is sacrificed without concern for objective realities to get social accumulations. We are also against concern only for present benefit and not caring about long-term benefits, dividing up until it is gone "rice for a meal and firweood for one cooking." There should be no small agricultural economy mentality of no collective accumulations.

Some people suppose that with the practice of a responsibility system whereby peasant households assume full responsibility for task completion and whereby individual households independently complete the entire production process from sowing to harvesting, there is no need for collective withholdings; withholdings can be the responsibility of individual commune member households and there is no need for production teams to handle them. They suppose that collective withholdings by production teams often set up a situation in which some cadres can eat more and take more. There is a certain amount of truth in such talk. In places in which cadre management levels are low, individuals do indeed eat more and take more, swallowing up collective property. However, this is not a shortcoming of the collective economy per se, but rather happens to be a manifestation of a lack of perfection in our collective economic system. We can solve it through democratic management of the eocnomy and through democratic management of fiscal matters as well as through the country's laws. We positively cannot fear doing a thing because of possible problems, not making collective withholdings or operating a collective economy in consequence. We know that each individual household can indeed make accumulations. But the strength of individual households is puny, and both materials and financial resources are limited. No outstanding results can be obtained within a short period of time. But when the dispersed funds of a myriad of households are accumulated in a single place, within a short period of time, copious funds can be assembled. Therefore, not only can we not negate the collective economy or slight the role of the collective economy, but rather we should consolidate and strengthen the collective economy, do a good job of collective withholdings, enlarge collective accumulations, assure expansion of agricultural reproduction, and promote high speed development of agricultural production.

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TIPS PROVIDED ON PROPER WHEAT FERTILIZATION

Shijiazhuang HEBEI RIBAO in Chinese 8 Apr 82 p 1

[Article by Liu Jinying [0491 6855 5391], Heli Commune, Wuqiang County: "Problems To Be Watched When Fertilizing Wheatfields"]

[Text] It is not a case of the more fertilization the better. In some places, once the wheat has greened up, large amounts of ammonium carbonate, urea, and such chemical fertilizers are applied at each state, several tens of jin or even more than 100 jin at a time, in the belief that the more the better. The result is a loss of capital without being able to increase yields, but rather causing the soil to become leathery, causing the wheat to remain in the vegetative stage and ripen late, and a decline in the per 1,000 weight of grains. Just what is the reason for this? Just how much fertilizer wheat needs in order to grow is a matter of what is a reasonable amount. Take wheatfields of moderate fertility, for example. The total amount of nitrogen (in terms of scalar quantity) used, including supplemental fertilization and topdressings before the onset of winter, should be no more than 20 jin per mu. About 35 jin of urea is also about right. Specifically in the course of spring care, when the wheat is watered for greening up, about 15 jin per mu of urea or about 40 jin of ammonium carbonate can be applied. When the wheat joints, between 7 and 10 jin per mu of urea can be applied. If ammonium carbonate is used, the amount should be 20-odd jin per mu. Consequently, top dressings of chemical fertilizers should be decided on the basis of the actual condition of the soil.

It is not the case that any way of fertilizing will do. One often sees just any kind of fertilizer being scattered on the ground by some commune members. This way of doing things saves work, but it does not produce the full effectiveness that the fertilizer should produce. Surveys and measurements have shown that if ammonium carbonate or ammonia water chemical fertilizers are put on the surface of the ground, as much as 20 percent or more of it may be volatilized. This artificially creates losses. Consequently, these kinds of chemical fertilizers have to be applied deeply into the soil. If the chemical fertilizer is put only 3 to 5 centimeters deep into the soil, it will be much more effective than if thrown on the surface of the ground.

It is not a matter of indiscriminate fertilizing with nitrogenous fertilizer. In some places, nitrogenous fertilizer is applied with no concern about the wheat's growing stage. This way of doing things frequently leads to the wheat continuing vegetative growth in its late stage, with late ripening and no increase in yields. Experience has shown generally that during the early stage of wheat growth, i.e., during the stages of wheat seedling growth before the onset of winter, during overwintering, when greening up, when beginning growth, and when jointing, the main line of attack should be toward nurture of sturdy seedlings, promotion of tillering, tiller formation, and spiking, and nitrogenous fertilizers such as urea or ammonium carbonate should be applied. But once the wheat has flowered and come into milk, the main line of attack should be directed toward formation of large heads and big grains. During this growth stage, heavy fertilization with phosphate should be done. This will not only increase the per 1,000 weight of grains and make the wheat grains plump, but it will also help the wheat resist lodging and hot dry winds.

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POINTERS OFFERED ON MACHINE SOWING OF COTTON

Shijiazhuang HEBEI RIBAO in Chinese 9 Apr 82 p 2

[Article by Maintenance Department, Provincial Bureau of Farm Machinery: "Some Suggestions About Good Cotton Machine Sowing Techniques"]

[Text] The cotton sowing season will soon be here. Machine sowing makes for evenly spaced seedlings and quick sprouting, so the masses like it very much. Let me now make a few suggestions about techniques for doing a good job of machine sowing of cotton, for the reference of all jurisdictions.

1. Before sowing begins, cotton sowing machines should be completely repaired and maintained. It is particularly important that devices for furrowing and regulating planting depths meet agricultural needs. The depth of furrow made by the furrowing device should not exceed 5 centimeters or be any less than 3 centimeters. When the furrowing device is in the down position, the four furrowing parts should all be in the same horizontal plane, rather than some high and some low. When sowing to combat drought is to be done, a soil separating device may be mounted on the furrowing device.

2. Proper regulation of number of seeds sown. First the planter should be set and then readjusted during actual operation. No matter how it is adjusted, the speed at which the wheel revolves has to match the speed of motion of the tractor at the time of planting. When seeds have been treated, adjustments have to be done in accordance with the increase in seed weight following treatment. When sowing, consideration must be given to whether the tractor slides when in motion, and when setting the quantity of seeds to be sown, a 5 to 8 percent increase in amount should be made in accordance with circumstances. In order to avoid clogging when sowing, the cotton seeds should be picked over and all foreign materials removed so that the seeds will be sown smoothly.

3. When sowing, in addition to maintaining the machines as they should be maintained, mud that sticks fast to the drive wheel or roller should be removed at once. Tractor speed must be kept constant with no speeding up or slowing down. At a fast speed, fewer seeds are sown, and at a slow speed

more seeds are sown. Measurements show that 15.6 percent fewer seeds are sown in third gear than in second gear.

4. Field plots to be sown by machine should be nicely harrowed so that their surface is crumbly and they are firm underneath.

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BRIEFS

QUEZHOU COUNTY WHEAT--Shijiazhuang, 18 Jun (XINHUA)--Thanks to dissemination of scientific research results, both total output and per-mu yield on more than 300,000 mu of wheatfields in Quezhou County, Hebei, this year have increased by 20 percent over last year. The county has sunk nearly 1,000 wells, dug ditches with a total length of 400 km, leveled 120,000 mu of land and planted 3.7 million trees to harness 230,000 mu of saline-alkaline land in the northern part of the county. [OW180851 Beijing XINHUA Domestic Service in Chinese 0030 GMT 18 Jun 82]

CSO: 4007/447

HEILONGJIANG

BRIEFS

GRASS BORER CONTROL--According to Heilongjiang Ribao, since 5 June a large amount of grown grass borers have emerged in Harbin municipality and in Shuangcheng, Wuchang, Acheng, Fuyu, Bin, Anda, Qingan, Hailun and Suiling counties. According to an investigation on 6 June in suburban Harbin by the Provincial Plant Protection Department, there are 150 to 250 grown grass borers for each square meter of grassland near cultivated areas. Some 100 percent more than in 1980 when borer pests were serious. [passage omitted] The peak period for grass borers in our province is during the last 10 days of June. The Provincial Plant Protection Department has issued notices to various localities urging them to pay close attention to the growth of grass borers and take proper measures to contol them. [Excerpts] [SK100409 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 9 Jun 82]

CSO: 4007/453

SPRAYING WITH POTASSIUM DIHYDROGEN PHOSPHATE TO PREVENT HOT WIND DAMAGE REPORTED

Beijing RENMIN RIBAO in Chinese 24 Apr 82 p 2

[Article by Correspondents Wu Chengde [2976 2052 1795] and Wang Biao [3769 1753]: "How Does Henan Guard Against Hot Dry Winds?"]

[Text] Hot dry winds frequently seriously damage bumper harvests of wheat. In recent years, Henan has had outstanding success in guarding against damage from hot dry winds. Recently the correspondents visited the famed national wheat expert and deputy chairman of the Henan Provincial Agricultural Commission, Liu Yingxiang [0491 2019 4382], and asked him to talk about his experiences in guarding against hot dry winds.

Question: How has Henan guarded against hot dry winds in recent years?

Answer: Large scale protection against hot dry winds in Henan is something that has come about during the past 2 years. In 1980, 31 counties and municipalities in the province sprayed an 8 million mu area with potassium dihydrogen phosphate. Results were very good in most areas and yields increased in general more than 8 percent. This year the Henan Provincial Government is preparing to invest 1.7 million yuan for the spraying of 21 million mu.

Question: Does spraying with potassium dihydrogen phosphate increase production costs?

Answer: Experiments and demonstrations in Henan Province during the past 2 years show that spraying with potassium dihydrogen phosphate or petroleum growth booster takes about 3 liang per mu at a cost of 0.40 yuan. Airplane gas costs another 0.70 yuan, so the total cost is about 1.10 yuan per mu.

Question: At what time does spraying produce best results?

Answer: The right time for spraying potassium dihydrogen phosphate is from the jointing to the booting stage in wheat, the booting stage being the best time. The right time for spraying petroleum growth booster is from the spiking to the beginning of the in-the-milk stage for wheat.

Question: Can spraying be done by hand?

Answer: Yes; either by hand or with machines (such as a mister). Both achieve the same protective results. Aircraft spraying, hand spraying and machine spraying can all be used in combination. For hillsides and small patches of land, hand spraying is exceptionally convenient; for large wheatfield areas, aerial spraying has to be done in order to finish it quickly and at the right time.

Question: How many times should spraying be done?

Answer: Two years of experience in Henan showed more apparent results when spraying was done twice rather than once. Last year Changge County sprayed once with potassium dihydrogen phosphate when the wheat was jointing, and sprayed again with petroleum growth booster when it was in the milk. As a result, the per thousand weight of grains increased by 3.52 grams and yield increased by 49 jin per mu, 20 jin more than from a single spraying alone.

In intermediate and low yield wheat growing areas, the addition of 1 to 1.5 jin of urea per mu to the potassium dihydrogen phosphate at the time spraying is done can further increase yields per unit of area. A survey performed at six sites in Xihua County showed an average 12 percent yield increase when spraying was done with potassium dihydrogen phosphate and urea, but only a 6.3 percent yield increase when spraying was done with potassium dihydrogen phosphate alone.

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CSO: 4007/401

BRIEFS

WHEAT HARVEST--Zhengzhou, 5 Jun (Xinhua)--Various places in the northern and central parts of Henan province suffered from serious droughts last winter and this spring. Non or low wheat-yielding areas have reached more than 13 million mu in the province as Xinxiang and Xuchang prefectures are still suffering from serious droughts. Through efforts made to combat droughts and improve scientific farming, medium or high wheat-yielding areas are expected to increase from the past 30 million mu to nearly 50 million mu. The province expects to reap a bumper harvest of wheat as the area planted to wheat has increased by 5 million mu. The per mu output is expected to exceed 600 jin in Shenqiu county and the total wheat output in Dengxian county, which has a total wheat-planted area of 1.5 million mu and whose total output increased by 120 million jin in 1981, is expected to increase wheat output by over 100 million jin this year. [Text] [OW061329 Beijing XINHUA Domestic Service in Chinese 0037 GMT 5 Jun 82 OW]

PIG, EGG PROCUREMENT--The Henan provincial government recently decided that, beginning from this year, the province must implement the policy on the assigned procurement of pigs and fresh eggs. The policy provides that the number of pigs and fresh eggs for assigned procurement, which has been fixed by all prefectures and municipalities, will remain unchanged for 3 years. The tasks of the assigned procurement and selling of pigs and fresh eggs to the state must be included in the state plan for agricultural production just as the tasks of the assigned procurement of grain, cotton and oil is included in the state plan for agricultural production. [Text] [OW061329 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 9 Jun 82 HK]

DENG COUNTY WHEAT PRODUCTION--Zhengzhou, 20 Jun (XINHUA)--Deng County, Henan, has continuously increased its wheat output by more than 100 million jin for 2 years running. This year, the county's total wheat output on its 1.5 million mu of wheat fields exceeded 600 million jin for the first time. In former years, the county's per-mu wheat yield was only about 200 jin. Last year, its per-mu wheat yield reached 317 jin, while total output was 475 million jin. This year's per-mu yield is around 400 jin. [OW211207 Beijing XINHUA Domestic Service in Chinese 0105 GMT 20 Jun 82]

CSO: 4007/447

HUNAN

BRIEFS

NATURAL DISASTERS--From the end of April to the beginning of May, some 370 brigades in 59 communes in the 7 counties of Yongxing, Zixing, Guiyang, Leiyang, Jiahe, Rucheng and Yizhang, in Chenzhou prefecture were struck by torrential rain, hailstorms and strong winds, which caused serious difficulties for production and people's livelihood in the localities. After the natural disasters, leaders at all levels in the prefecture went into stricken areas to organize the masses to fight natural disasters and step up relief work. Chenzhou administrative commissioner's office appropriated 400,000 yuan from local finance as relief funds and 100,000 yuan as water conservation funds and supported victims with 600,000 jin of chemical fertilizers and agricultural chemicals and some 15 million jin of grain which was produced by these places and sold back by the state. Over the past few days, the prefecture has sent some 200,000 laborers every day to help with farming. Early and midseason rice on some 43,000 mu in Guiyang county was damaged and early and midseason rice on some 38,000 mu was recultivated. [Text] [Changsha Hunan Provincial Service in Mandarin 1100 GMT 20 May 82 HK]

CSO: 4007/453

BRIEFS

TONGSHAN COUNTY HAILSTORM DAMAGE--At 6 pm on 10 June, a hailstorm hit 11 communes of Tongshan County, Jiangsu, damaging 68,000 mu of cotton, corn, potato and other field crops. Among these 35,000 mu of seedlings were completely wiped out. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 18 Jun 82]

SUINING COUNTY RAPESEED--Suining County, Jiangsu, reaped 45 million jin of rapeseed from its 220,000 mu of rapeseed fields. As of 10 June, the state had purchased and warehoused 10.75 million jin. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 17 Jun 82]

YANGZHOU PREFECTURE SUMMER GRAIN--By 15 June, the total amount of summer grain, including wheat and barley, put in storage in Yangzhou Prefecture, Jiangsu, increased by 59 percent over the corresponding period last year. The prefecture also saw an increase of total amount of rapeseed put in storage by 91 percent over the corresponding period of last year. The prefecture's total summer grain output this year increased by 15 percent over last year, an all-time high. [OW211213 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 9 Jun 82]

CSO: 4007/447

BRIEFS

PENGZE COUNTY COTTON MANAGEMENT--Pengze County, Jiangxi Province, has stepped up management of cottonfields. The county's 160,000 mu of cotton is growing very well. As of 31 May, weeding work had been carried out on 100,000 mu of cottonfields. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 11 Jun 82]

GAOAN COUNTY SPRING HARVEST--By 10 June Gaoan County had already purchased and placed in storage more than 5.7 million jin of spring grain, overfulfilling this year's spring grain purchase plan by 14 percent. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 15 Jun 82]

CSO: 4007/447

SIPING PREFECTURE COMBATS DROUGHT

SK080414 Changchun Jilin Provincial Service in Mandarin 2200 GMT 7 Jun 82

[Excerpts] According to our commentators (Peng Wangui and Zheng Xiemin), CCP committees and people's governments at all levels in Siping prefecture have actively led cadres and the masses to launch a struggle of combatting drought and ensuring the growth of crop seedlings. At present, except for some areas where crop seedlings have failed to sprout from the ground due to serious drought, 80 percent of all fields have a full stand of crop shoots. Transplanting of paddy seedlings has finished basically. All crop seeds sown before 28 May have become seedlings and those replanted in the late stage also began to come up.

Since the beginning of spring this year, most areas in Siping prefecture have experienced less rain than usual. Some communes and brigades have had no heavy rain for over 60 days and thus are suffering from a serious drought seldom seen for many years. Under such a situation, CCP committees and people people's governments at all levels in Siping prefecture have actively led cadres and the masses to struggle against drought to ensure a good growth of crop seedlings instead of waiting for rain and being afraid of difficulties.

Principle leading comrades of the prefectural CCP committee and the prefectural administrative office as well as leading comrades of various municipalities and counties have personally gone down to communes and brigades stricken by serious drought to take the lead in antidrought work. Yitong, Huaide and Dongfeng counties and Liaoyuan municipality have transferred some 350 cadres from county-level organs to launch antidrought struggle in disaster communes and brigades. Now more than 200,000 people in the prefecture have plunged into antidrought work and replanting of crop seedlings. In the course of drought combatting, the prefectural CCP committee also educates cadres and the masses not to be disheartened because of the serious drought and to firmly foster the thinking of striving for a good harvest by combatting drought. [passage omitted]

The signs of drought continue to develop in Siping prefecture. However, the numerous cadres and masses are more enthusiastic in combatting drought to ensure the growth of crop seedlings. At the same time, they are taking precautions against the possible waterloggings in the late farming stage.

CSO: 4007/453

BRIEFS

RICE REPLANTING--Taking advantage of timely rainfall from 30 May to 1 June, Dongfeng county of Jilin province organized all people including students to replant paddy rice seedlings. Some 97 percent of the paddy rice transplanting plan has been completed thanks to this crash program. [Text] [Changchun Jilin Provincial Service in Mandarin 2200 GMT 4 Jun 82 SK]

RICE TRANSPLANTING--Hailong county, whose rice acreage is relatively large in Jilin province, has summed up past lessons and basically completed rice seedling transplanting on over 300,000 mu of paddy fields in its 24 communes. [Text] [Changchun Jilin Provincial Service in Mandarin 1100 GMT 4 Jun 82 SK]

CHANGCHUN AREA DROUGHT--Commune members in Changchun area have seized the opportune time to replant crops on drought-stricken farmland. As of 24 May, some 37 communes and 1.46 million mu of farmland were hit by drought. To combat drought, the Changchun municipal CCP Committee recently held an emergency telephone conference to discuss measures to combat drought. [Text] [SK052214 Changchun Jilin Provincial Service in Mandarin 1100 GMT 4 Jun 82 SK]

PADDY TRANSPLANTING--Helong county, Jilin province, has basically finished paddy rice transplanting. As of 2 June, the county had transplanted 130,000 mu of paddyfields. [Text] [SK040735 Changchun Jilin Provincial Service in Mandarin 1100 GMT 3 Jun 82 SK]

CHANGCHUN SUBURBAN DROUGHT--Since a snowfall on 18 March, Changchun's suburban area has had no rain for 85 days. Two-thirds of the area's 131 reservoirs and ponds have dried up. The water level of potable water wells has dropped 1 meter. Over 20 production teams in the area have a drinking water problem. To combat drought, over 53,000 people, 2,500 animal-drawn vehicles and 600 motor-driven vehicles are out each day to deliver water and irrigate vegetable fields. As a result of commune members' efforts, some 109,500 mu of spring vegetables have been revived, and 26,780 mu of summer vegetable will survive. [Text] [SK140333 Changchun Jilin Provincial Service in Mandarin 1100 GMT 13 Jun 82 SK]

CSO: 4007/453

EXPERIMENTS IN DENSITY PLANTING OF CORN DESCRIBED

Changchun NONGCUN KEXUE SHIYAN [RURAL SCIENTIFIC EXPERIMENTS] in Chinese No 1, 1982 p 20

[Article by Cong Wanda [0654 8001 6671] of the Nongan Science Committee: "Preliminary Report on the Experiments in Density and Structure of the Corn Colony"]

[Text] Different forms of planting require different planting densities. The same form of planting will produce greatly different yields if the planting density is different.

To understand the rational density and the structure of the colony of corn in conditions of small proportional interplanting, I conducted field experiments at the Third Production Team of Yumin Brigade, Xinyang Commune, in Nongan County in recent years. The variety of corn for testing was ji dan 101. The form of planting was 4.2 interplanting of corn and soybeans. The planting densities of corn were two plants every 2 chi, a single plant every 1 chi, two plants every 1 chi and a single plant every half chi. For the first two forms of planting, 3,000 seedlings were preserved per mu. For the last two forms of planting, 6,000 seedlings were preserved per mu.

Results of the experiments showed that in small proportional interplanting, the yield increased as the density increased in fields with 3,000 to 6,000 preserved seedlings per mu. Although the growth and development and the major economic characteristics of the single plants in the fields with 6,000 preserved seedlings per mu were poorer, because there were more spikes per unit area, "abundance won the victory." For example: The per-mu yield of fields of two plants planted every 1 chi was 1,248 jin, while the per-mu yield of fields of two plants planted every 2 chi was 983 jin. The former yielded 265 jin more per mu than the latter, or an increase of 26.9 percent in yield. The converse was true of the fields of single plants. As the density increased, the length of spikes, the number of grains per spike, the weight of hundred grains and the yield all showed a lessening trend. In the experiment, the per-mu yield all showed a lessening trend. In the experiment, the per-mu yield of the fields of single plants planted every 1 chi was 1,250 jin, while the yield of single plants planted every half chi was 1,012 jin. The former produced 238 jin per mu less than the latter in harvest, a reduction of 19.1 percent in yield. This was because the plants were too dense, the fields were overly closed, and aeration and light penetration were not good.

The experiments also showed that when the density was low, the yield of single plants was the highest. When the density was high, the yield of double plants was the highest. For example, in the experimental fields with 3,000 preserved seedlings, the fields with single plants planted every 1 chi produced 27.2 percent more in yield than the fields with double plants planted every 2 chi. In the fields with 6,000 preserved seedlings, fields with double plants planted every 1 chi produced 23.2 percent more in yield than the fields with single plants planted every half chi.

9296
CSO: 4007/267

RESULTS OF SPARSE PLANTING OF SOYBEAN PLANTS DESCRIBED

Changchun NONGCUN KEXUE SHIYAN [RURAL SCIENTIFIC EXPERIMENTS] in Chinese No 1, 1982 p 20

[Article by Zhang Guishan [1728 6311 1472] and Hu Jiahai [5170 0502 3189] of the Dunhua County Agricultural Bureau: "Equal Distance Sparse Planting of Single Soybean Plants Produces High Yields"]

[Text] The technicians of the General Dunhua County Agricultural Techniques Popularization Station and the experimental station of the county pedigree seed farm have conducted experiments in methods of soybean cultivation at the county's pedigree seed farm for 3 consecutive years. They summarized the experience of cultivating "high yields by planting single soybean plants at equal distances, sparsely." In 1981, the "sparse planting" technique was applied on 30 mu of demonstration fields. The average per-mu yield was 366.8 jin, an increase of 13.7 percent over "dense plantings." A new way to rationally plant soybeans densely by suiting measures to local circumstances has been found.

There was a saying in the past: "To obtain 4, 5 or 6 soybean plants, one has to sow 7, 8 or 9 seeds." This wasted a lot of soybean seeds. The farming technicians followed the long-standing advice of the farmers to "thin the side stems of soybeans and trim the wheat plants" and proposed "thin planting" of soybeans aimed at correcting the ever increasing dense planting of soybeans in production over the past years. This not only conserved seeds but it also increased yields. This experiment was started in 1979. The variety "dun liang No 3" which has relatively strong branching ability was selected and planted in relatively fertile soil. After 3 years of experiments, the growth of single plants was the best and the yield was the highest compared to planting of many plants and the planting of two plants per hole. The advantages of single plants included the following: 1) Seeds were conserved. About 100 jin of soybean seeds could be conserved per hectare, equivalent to a reduction of 34.50 yuan in production cost; 2) The "Thin planting method" improved the environment of cultivation. The single plants could fully absorb the nutrients in the soil and the individual plant was stimulated to produce more branches; 3) The structure of the colony, aeration and light penetration were improved and flowers and pods were protected. There were more beans, the beans were heavy and the yield was high. This technique is easy to carry out, it benefits field management and harvesting, and it can conserve labor. It requires careful dibbling. Two seeds should be planted in one hole, and one plant should be kept to preserve the seedlings. The workers of this farm praised the "thin planting method" after evaluating it is 1981. In 1982, they plan to popularize it over more than 200 mu, constituting half the area of soybeans of the whole farm.

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CSO: 4007/267

BRIEFS

FRESH WATER FISHERY PLAN--The Liaoning provincial people's government recently sponsored a work conference on fresh-water fisheries. After discussions, the conference approved a resolution on the provincial goal of developing fresh-water fisheries. The plan discloses that by the end of 1985, the province will build 50,000 mu of up-to-standard fishing ponds and 20 large and medium-sized reservoirs which may provide 300,000 mu of fishing farms. The province will score a 100 percent increase in fresh-water fishing output. According to statistics, the 1981 per capita fresh-water fish consumption in our country was 2 jin 9 liang. Per capita consumption in our province was only 6 liangs. [Text] [SK040737 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 2 Jun 82 SK]

CSO: 4007/453

SNOWSTORM STRICKEN AREAS RETURN TO NORMAL

SK090851 Xining Qinghai Provincial Service in Mandarin 2330 GMT 8 Jun 82

[Text] The herdsmen of various nationalities in our province's snowstorm-stricken pastoral areas, after 2 months' hard work, have achieved good results in combatting disaster to protect livestock. Since the weather in these areas is getting warm at present, the grass has begun to turn green and the loss of animals has basically stopped.

According to incomplete statistics released in early June, 884,000 animals of all kinds died in the pastoral areas' six autonomous prefectures, 4.7 percent of the total number. This is less than what was expected by departments concerned.

Since the 1970's, pastoral areas in our province have experienced two heavy snowstorms. One occurred in 1975 and the other this year. Comparing the two, this year's snowstorm covered a longer area and lasted a longer period, but the loss was less than that in 1975. This year, the loss of full-grown animals equaled two-thirds of that in 1975.

The broad masses of herdsmen are now taking this opportune time to step up management in grazing and feeding in the summer season in order to enable livestock to regain weight as soon as possible.

CSO: 4007/453

BRIEFS

PROVINCIAL SUMMER GRAIN--Xian, 18 Jun (XINHUA)--Hanzhong and Ankang prefectures in Shaanxi, both of which suffered from serious flood and waterlogging last year, have reaped a bumper harvest of summer grain this year. Total output of Hanzhong Prefecture's 2.22 million mu is estimated to exceed 540 million jin. Total output on Ankang Prefecture's 2.7 million mu is also expected to exceed 500 million jin. [Beijing XINHUA Domestic Service in Chinese 0038 GMT 18 Jun 82]

CSO: 4007/447

SOME POINTERS GIVEN ON THE GROWING OF LUMIAN NO 1 COTTON

Taiyuan SHANXI NONGMIN BAO in Chinese 10 Apr 82 p 1

[Article by Ge Wenze [7041 2429 3419]: "Lumian No 1 Culturing Techniques"]

[Text] Lumian No 1 fine variety cotton was propagated by irradiation in 1971 by the Shandong Provincial Cotton Institute. It is characterized by compact plants, strong boll formation, a low drop off rate, early ripening, much cotton before the arrival of frost, wide adaptability, and strong resistance. In 1980 places all over the province began to introduce it to cultivation, and increased yields over wide areas were remarkable. However, because a small number of places did not understand the special properties and characteristics of fine varieties, the culturing methods they used were not right. As a result, increases in yields were not remarkable, or else only ordinary yields resulted. In order to make the most of the potential of fine varieties for increased yields, the following problems must be given attention in the process of promoting their cultivation.

Seed selection and seed treatment. About half a month before sowing, sunning of the seeds should begin. Before sunning, small half-filled seeds, broken seeds, fuzzless seeds, green seeds, seeds eaten by insects, seeds with little hair, large white seeds, and seeds that are not the same in size or appearance as the original ones should be picked out. Grains of the same size, color and shape should be chosen as seeds. Around noontime when the sun is strongest the seeds should be laid out on flat ground or on a mat for sunning and sunned for 4 to 5 days, until they crack when bitten between the teeth. One day before they are planted, the seeds should be soaked in water and a chemical solution to prevent diseases and to promote germination. The method of treatment is to use three parts boiling water to one part cold water or two parts boiling water to one part cold water to make warm water. The volume of water should be twice the volume of the seeds. The cotton seeds should be soaked in this for 13 minutes, after which they should be put into cold water. After soaking until the skin of the cotton seeds has softened and the cotyledon delaminates, they should be scooped out and piled up to let the action continue, being covered with burlap bags or straw. Usually the action need continue only for 8 to 12 hours.

Sowing the seeds. Lumian No 1 is an early maturing variety, which may be planted when soil temperature below one and one-half cun reaches about 15 degrees. This is around 20 April (in Yuncheng and Jinzhong prefectures). In saline, alkaline, and wet fields, sowing may be delayed until the end of April. Inasmuch as plant shapes of this variety are relatively compact, this variety can be planted somewhat more closely together than local varieties, but not too close together. On well manured and watered ground, they may be planted a little closer; on dry and not so fertile ground, they should be planted somewhat less closely. The specific distances between rows should be worked out in a flexible way on the basis of the average distance between rows, how well fields are cared for, and local custom. Generally an average distance between rows of less than 2 chi 3 cun and more than 1 chi 8 cun is about right. When the average distance between rows is about 2 chi, large and small rows may be planted, a difference of 7 to 8 cun between large and small rows being about right.

Field care. Lumian No 1 cotton tolerates fertilizer and water, has a strong boll forming characteristics, has a short boll forming period, grows weakly during the late stage and is prone to early deterioration. In tending it, speical attention must be given to the following. 1) In view of its sensitivity to water and fertilizer, it must be watered at three different times, namely watering to make the soil moist before sowing, watering during the squaring stage to promote plant growth, and watering during mid or late August for boll formation. 2) For yields of 100 jin per mu of ginned cotton, between 4,000 and 5,000 jin of mud fertilizer (base fertilizer) will be required, plus between 30 and 40 jin of ammonium sulfate (as a top dressing). One-third of the chemical fertilizer used as a top dressing is to be given during the squaring period, the other two-thirds being applied during flowering. In order to prevent premature plant deterioration, between 30 and 50 jin per mu of calcium superphosphate should be applied before sowing, and spraying done during flowering with a 2 percent concentration of calcium superphosphate extract, or a 300 to 500 part potassium dihydrogen phosphate solution. 3) Lumian No 1 cotton has few branches that do not bear cotton, and bolls are numerous in the mid and lower parts of plants. Not too many cotton bearing branches should be kept, and topping should be done early on. Generally for cotton fields that produce about 100 jin per mu, about 40,000 branches per mu should be retained. During the late season, old leaves should not be removed.

9432
CSO: 4007/392

1981 PER-CAPITA INCOME FOR PEASANTS REGISTERS INCREASE

Taiyuan SHANXI RIBAO in Chinese 3 Apr 82 p 2

[Article by Zhang Zhiyu [1728 0037 1946]: "Shanxi Province Reports 1981 Rural Area Distributed Income"]

[Text] According to recently tabulated information, last year there were 22 counties (districts or municipalities) in Shanxi Province in which the per-capita income distributed by collectives exceeded 100 yuan. Nanjiao District of Datong Municipality claimed the highest per-capita income, 211.6 yuan, while residents in Nanjiao District of Taiyuan Municipality and on the outskirts of Yangqu Municipality claimed a per-capita income of a little over 200 yuan. There were 53 communes, or 11 more than in 1980, which claimed a per-capita income of over 200 yuan, and 314 brigades, or 110 more than in 1980, in which the per-capita income exceeded 300 yuan. Two brigades, Dalupo and Shangzhangjiawen had the highest per-capita income of over 1,000 yuan. Shangzhangjiawen had the highest per-capita income, 1,208.3 yuan. Long poverty-stricken Baode County registered an increase of 50.7 and 39 percent respectively in the gross output of food grains and income the levels of 1980, despite natural disasters. In 1981, each person in Xingxian County received 508 jin of food grains from collectives, the highest ever in the province. In 1978, there were only 91 economic accounting units in Jinzhong Prefecture with per-capita income exceeding 150 yuan. But in 1981, the prefecture had 1,328 such units or 13.5 times greater.

Last year, the grassroots economic accounting units throughout the province spent a total of 1,088,210,000 billion yuan in outlay on various operations, down 11.5 percent from the level of 1980, which means an additional income of 7 yuan per person in the province's rural population. In 1980, the economic return on each 100 yuan invested by communes and brigades was 270 yuan. In 1981, this economic return increased by 14.6 yuan to 284.6 yuan. In 1980, the economic return on each 100 yuan invested by Luliang Prefecture were 258 yuan. In 1981, this economic return increased by 25 yuan to 283 yuan.

This increased production and reduced expenditure have brought additional income to the state. Last year, rural Shanxi delivered 130.88 million yuan in taxes to the state, up 12.1 percent from the level of the previous year, which meant an additional per-capita contribution of 0.69 yuan to the revenue. Last Year, the province sold and delivered to the state a total of 1,756,000,000 billion jin of food grains, which represented an increase of 37.94 million jin or 2.2 percent over the level of the previous year.

9574
CSO: 4007/376

NEW COTTON VARIETY GIVEN HIGH MARKS

Taiyuan SHANXI NONGMIN BAO in Chinese 10 Apr 82 p 1

[Article by Hao Tyolan [6787 7474 5695] station advisor: "New Cotton Variety, Jinmian No 5"]

[Text] New cotton variety Jinmian No 5 was systematically bred from 68-148 cotton variety by the economic Crop Institute (located at Nanhuan in Fenyang County) of the Shanxi Academy of Agricultural Sciences. This variety's output is relatively high and relatively consistent. During the 3-year period from 1979 to 1981, regional experiments conducted by 23 communes and brigades produced yields of ginned cotton averaging 125.2 jin per mu, a 10.3 percent greater yield than that from control variety Heishanmian No 1. Unginned cotton yields were 8.9 percent greater than from the control variety, and cotton yields before frost were 14.6 percent greater. Production demonstrations over the 3-year period brought yields averaging 158.9 jin per mu of ginned cotton. As compared with the variety promoted, this was a 20.7 jin yield increase, and 21.2 percent more cotton before frost. The principal characteristics of the new Jinmian No 5 variety are: greater and consistent yields, early ripening with large bolls, fairly high ginning outturn, fairly long fibers, ability to withstand yellow dwarfing and wilting, and fairly strong adaptability. Seven consecutive years of testing and demonstrations have shown an average 14.6 percent increase in ginned cotton output with individual bolls weighing 4.4 and 5.4 grams. The ginning outturn rate was from 38.1 to 39.7 percent, and fiber length measured 28.1 millimeters.

Growing of Jinmian No 5 new variety requires sufficient basic fertilization, proper close planting, prompt topping, a seedling density of between 8,000 and 10,000 plants per mu, and each plant retaining 6 or 7 cotton producing branches. In the overall field care process, early and deep cultivating must be done during the [squaring] stage to strengthen seedlings so as to derive fullest potential for a bumper harvest of large and numerous cotton bolls. During the late stage, early deterioration of plants is to be guarded against.

New variety Jinmian No 5 takes 148 days from sowing until boll opening. Its growing season is comparatively short, and its yields have been shown to be comparatively good, making it suitable for extension to cultivation in wetland and flatland drylands in the particularly early ripening cotton growing areas of Jinzhong Luliang and Taiyuan in Shanxi Province.

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CSO: 4007/392

MEASURES TAKEN TO INCREASE COTTON PRODUCTION DESCRIBED

Yuncheng Prefecture Efforts

Taiyuan SHANXI RIBAO in Chinese 18 Mar 82 p 1

[Article by SHANXI RIBAO correspondent: "Yuncheng, Linfen Prefectures Popularize Shandong's Cotton Production Experiences"]

[Text] Since the beginning of this year, Yuncheng Prefecture has displayed determination to fight a battle in order to double its cotton output, and has adopted five specific measures for this purpose.

1. It is necessary to implement policy. Since the Shanxi Provincial Cotton Production Conference, the Yuncheng prefectural party committee and various counties under Yuncheng Prefecture have promptly sent personnel to basic levels so that they can convey policy approved by the party Central Committee and the Shanxi provincial party committee on cotton production to peasant households for implementation. Some 100,000 copies of the document on the minutes of the Shanxi Provincial Cotton Production Conference have been printed by the Yuncheng prefectural party committee for distribution to the grassroots units so that the nine policy decisions by the Shanxi provincial party committee on the development of cotton production can be quickly made known to the cotton peasants. This action has proved instrumental in boosting the morale of the peasants for cotton production this year.

2. It is necessary to implement the plans. This year, the target set by the state for Yuncheng Prefecture is to grow cotton on 2 million mu of land. As a result of repeated efforts, the prefecture has achieved success in planting cotton on 2.161 million mu of winter fallow land and of multiple cropping land, or 161,000 mu more than planned by the state, thus smashing the record of any previous year since 1958.

3. It is necessary to strengthen leadership. In order to strengthen leadership over cotton production, principal leading cadres from prefectural to county levels have begun to assume a direct role in cotton production. The prefecture now has 195 cotton-growing communes whose deputy secretaries or vice chairmen have taken the initiative to include technicians on the staff of commune-operated agricultural techniques promotion stations and to have skilled cotton growers employed by production teams join the leading groups concerned with cotton production.

4. It is necessary to apply technology. Yuncheng Prefecture and various counties have formed their respective cotton cultivation technical advisory groups (composed of leading cadres, scientific and technical personnel, and model cotton cultivators) with the aim of combining the application of traditional cotton cultivation experiences and modern science and technology in cotton production. Since their establishment the cotton cultivation advisory groups have started a technical training program. So far, the 13 training classes held by the prefectural advisory group in various counties have graduated some 2,500 students, including county and commune level leading cadres and technicians on the staff of commune-operated agricultural stations. The prefecture plans to train a total of 300,000 technicians, or one for every two households on the average.

5. It is necessary to make farming preperation. The prefecture now has 1.93 million mu of winter fallow land planted with cotton. Of this figure, some 820,000 mu of land have been set aside as cotton land to be irrigated. Since the beginning of this spring, some 320,000 mu, or 40 percent of the total, have received irrigation waters. Meanwhile, some 7 million carts of farm manure have been collected and prepared for use. This amount of manure is sufficient to provide each mu of land with 3 and 1/2 carts of manure. For the time being, some 60 percent of this amount of manure has been made available to cotton fields; cotton fields throughout the prefecture have been harrowed twice; 1.1 million mu of furrowed cotton land or 57 percent of the total have been levelled. Some 37 million jin of cottonseeds--averaging 19 jin per mu of land--have been readied for distribution, while 266,000 mu of cotton land have been covered by plastic sheets.

At present, active preparations are being made by the vast numbers of cotton peasants to dry up cottonseeds, to deliver manure to fields, and to exchange their cotton-growing technical information in the determination to insure that cotton crops will be grown to capacity and well.

Cotton Production in Linfen

Taiyuan SHANXI RIBAO in Chinese 18 Mar 82 p 1

[Article by Ru Lan [1172 3482], Yong Jiang [3057 3068], Feng Ming [7685 7686] and Rong Yue [2837 6460]: "Linfen Prefecture Promotes Shandong's Cotton Growing Experiences"]

[Text] In the course of actively studying Shandong's experiences in cotton production, cotton peasants throughout Linfen Prefecture have summed up their own experiences and lessons and displayed determination to save the "bolls from falling off the plants."

Linfen Prefecture is known for its mild climate, plentiful sunlight, and fertile soil. Historically, it once led other prefectures in north China in cotton production. But over the past 10 years, its gross cotton output has been only 30 million jin a year, while in 1981 its per-mu output of cotton dropped to the lowest level for the third consecutive year. In order to reverse this trend, early this year Linfen Prefecture held a discussion meeting attended by "eight cotton experts" and technicians sent by the Shanxi Provincial Wheat Research Institute. During the meeting, experiences and lessons centering on the cause of cotton bolls falling off the plants were realistically and conscientiously summed up, and measures for increased cotton production were studied. Later, the prefecture held another meeting attended by responsible comrades of 11 cotton-growing counties and municipalities in charge of cotton production, including deputy secretaries of county party committees, deputy heads of county governments, directors of the departments of industry and agriculture, and responsible persons of bureaus of food and of agriculture, supply and marketing cooperatives, and cotton and hemp companies. The aim of the meeting was to study Shandong's experiences in increasing cotton production despite natural disasters, to discuss specific measures aimed at increasing cotton production this year, and to adopt a resolution calling for following the example of Shandong in scoring a breakthrough in cotton production. To this end, Linfen Prefecture and counties under this prefecture have spent time, before the beginning of this busy spring farming season, conveying policies of various incentives to various communes, brigades, groups, and households of commune members, and extending to them advance pay. Active efforts are also being made to select superior cotton varieties, to improve cultivation techniques, to spread fertilizer in scientific ways, and to promote strong but low-toxic insecticides.

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MOVES TO INCREASE BREEDING HOGS, MEAT PRODUCTION REPORTED

Taiyuan SHANXI RIBAO in Chinese 16 Mar 82 p 2

[Article by Guo Ce [6753 4595], Gao Yongrui [7559 0516 6904], and Sun Yong [1327 0516]: "The Raising of Sows Should Be Encouraged in Many Ways"]

[Text] The decline in the output of live hogs is a matter of great economic concern that deserves our great attention and conscientious efforts to seek a solution to this problem. Bearing this problem in mind, we recently went to interview the departments concerned and the masses of peasants in Yanbei Prefecture. Their consensus is that this decline in the output of hogs can be reversed only by taking an important step to raise more sows. Yanbei Prefecture now has 359,000 hogs in stock, down 11 percent from the level of the corresponding period of 1980. Particularly noteworthy is the fact that there are now only a little over 22,000 sows in the stock of Yanbei Prefecture, or more than 39 percent less than the level of the corresponding period of 1980. Calculating on the basis that each sow can breed 10 piglets, as indicated by the current trend of development, the existing number of sows can produce only 220,000 piglets. Added to the number of hogs now in stock, the total number of hogs to be raised this year will not exceed 580,000, down 80,000 to 90,000 from the previous year's level of 660,000.

What has caused the output of hogs to drop? The main reasons are:

1. The masses are bound to suffer great losses from selling their hogs in stock whenever supply of hogs exceed demand. This has prompted them to say: "From now on, we will never try to raise hogs again."

2. When the dry spell was prolonged during last summer, the masses became panic-stricken because they could not sell their piglets. Consequently, they had to slaughter sows without authorization. The result was a 50-percent decline in the number of sows in Guangling, Hunyuan, Yingxian, Datong, and Huairen Counties in the short period of June and July 1981.

3. Since the implementation of the production responsibility system, the old policy of allowing peasants to retain a portion of their farmland as feed growing plots and part of their harvest for feed has been declared null and void by some localities. Thus, there is no distinction between those who merit commendation for raising hogs and those who deserve punishment for declining

to raise hogs, and between those who merit commendation for raising more hogs than others and those who should be scolded for raising less hogs than others. The result was a decline in the sales of piglets and a gradual reduction in the number of hogs in stock during the second half of 1981.

4. The leadership in some localities has ignored the need to raise hogs on the assumption that in the absence of government intervention, meat will still be available everywhere.

Then what steps should be taken to solve the problems caused by a lack of interest in raising hogs, and what ways should be devised to encourage people to raise sows and to promote the large-scale development of hogs?

First, we must attach importance to the raising of hogs from the ideological point of view. In addition to actively encouraging full-time breeders to raise sows, we must call on financially sound communes and brigades to raise more sows and to operate collectively owned pigpens. In order to reverse the downward trend of raising hogs, the administrative office of Yanbei Prefecture has granted 200,000 yuan in assistance to those counties, communes and brigades which are in need of sows. The rule is that anyone who raises one sow will receive 10 yuan in subsidies, and anyone who raises one boar will receive subsidies in the amount of 30 yuan. Contracts to this effect will be signed and carried out by parties concerned.

Second, the policy of awarding prizes to the sellers of piglets, the pricing policy, and the policy of allowing peasants to retain part of their harvests as feed should continue in force; no reckless attempts should be made to change the specific regulations that have been proved effective in raising hogs by various localities. In an effort to stimulate the enthusiasm of the masses for raising hogs, the Yanbei prefectural party committee has allowed each commune member to retain 15 percent of the farmland assigned to him as his private plot, and 5 percent of this plot as land to be planted with feed crops. This privilege will be forfeited if he declines to raise hogs. The policy that entitles each breeder to receive 500 jin of feed for raising one boar, 360 jin of feed for raising one sow, and 60 jin of feed for raising one meat hog--a policy that has been enforced by some localities--should also continue in force. No reckless attempts should be made to change them.

Third, plans must be worked out to protect and develop boars and sows. The ratio of breeding sows to hogs in stock should be maintained at 1 to 10, and the ratio of sows to boars should be maintained at 20 or 25 to 1 in order to insure the normal development of the hog-riasing enterprise. In an effort to speed up the development of breeding hogs, Datong County has adopted a measure to entitle each breeder to receiving 30 yuan in subsidies for raising one boar or sow, 1 to 3 yuan for raising one piglet born of a sow in his stock. These subsidies will be provided by production teams. All sows and boars in the stock of Datong County are inspected once every year so that those capable of breeding piglets can be attained and those incapable of breeding piglets can be slaughtered.

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MEASURES TO CLEAR ICE CLOGGING IN YELLOW RIVER DESCRIBED

Taiyuan SHANXI RIBAO in Chinese 23 Mar 82 p 1, 4

[Article by the ice clogs clearance command of Hequ section of the Yellow River in Shanxi Province: "Groundwork Has Been Laid for Clearing Up Ice Clogging in the Yellow River"]

[Text] In a spirit of unity, army men and civilians have been working hard to complete the basic phase of a project aimed at clearing up ice clogs in the Yellow River. They are now in a state of strict combat-readiness, preparing to take all necessary emergency measures to cope with the situation that may be caused by a cascade of icy waters.

Since last December, heavy ice clogs have appeared in the main waterway of the Yellow River, causing the icy water levels to rise to a point unprecedented in history. The cascade of icy waters has inflicted serious damage on Hequ County in this province and Jungar Banner in Nei Monggol during its movement down the Yellow River past their banks. The party and government have expressed grave concern for the safety of lives and property of the masses of people in the afflicted area. Following an inspection of the area, officials sent by the Central Committee departments concerned have directed three nearby provinces--Shanxi, Shaanxi and Nei Monggol--to set up a joint ice clogs control command. The Shanxi provincial party committee and the provincial government have organized and rushed forces to Hequ County in order to get the ice clogs clearance and rescue and relief work underway.

The first phase of the emergency rescue operation set by the three-province joint ice clogs control command includes controlling waters used by the Liujiaxia Hydroelectric Power Station on the upper stream, releasing waters through the sluices of the Tianqiao Hydroelectric Power Station on the lower stream of the river, and blasting a passageway through the heavily ice clogged main waterway of the Hequ section of the Yellow River. On 21 February, a certain PLA engineering company stationed in Shanxi was ordered to move into Hequ, and supported by the local militia units, it has spent the past half-month blasting a water drainage passageway, 30 to 35 meters wide and over 1,400 meters long, through the heavily ice clogged main waterway of the Hequ section of the Yellow River. On 12 March, it completed two gap-closing projects, one in Houjiakou and the other in Xujiakou. From 15 to 16 March, a vast army of 2,000 rescue workers rushed against time to complete the construction of an engineering project aimed at protecting a bay area and three parallel dikes totalling 2.411 meters long, thus bringing the first phase of the ice clogs control and rescue operation to a successful conclusion.

Later, the command held a meeting to work out the second phase of the rescue operation, including the dispatch of a certain air force unit and two PLA artillery companies stationed in Shanxi into the area in support of the operation. From 14 to 16 March, five sorties were flown by aircraft to drop 1 ton of bombs into the ice clogs. From 15 to 17 March, test shots fired by the artillery companies from Changsha Beach all hit the proposed targets with pinpoint accuracy. At the same time, the PLA engineering corps company also claimed success in blasting a way out of the ice clogs with missiles. Two huge generators owned by the Shanxi Provincial Bureau of Water Conservancy and some searchlights in the possession of a certain air force unit have been moved into the area, thus setting the stage for combatting the cascade of icy waters to be triggered by the blasts. During the period of ice clogs clearance and rescue operation, the command tightened up its security measures by organizing the masses to evacuate temporarily from the dangerous area, while concentrating on sowing spring wheat in the area afflicted by this disaster.

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SICHUAN COTTON AREA CUT IN HALF; YIELD INCREASES URGED

Chengdu SICHUAN RIBAO in Chinese 12 Mar 82 p 1

[Article by Commentator: "Strive to Increase Cotton Yield Per Unit Area"]

[Text] Strive to raise cotton yields per unit area and do all that is possible to break previous records. This is a glorious task facing the cotton-growing peasantry of all Sichuan now that the area devoted to cotton has been readjusted.

It is entirely possible to surpass the previous record of single-crop cotton output in Sichuan. This year the province's cotton area was reduced from 3.86 million mu to 1.8 million mu and the number of cotton-growing counties have fallen from 34 to 20. These 20 cotton-growing counties are the key growing areas most suited to cotton production. Historically, single-crop cotton output in most of these counties has reached or exceeded 100 jin per mu. Their cadres and masses have experience in obtaining high yields and using scientific techniques in cotton growing. Both natural conditions and technical experiences in these counties are advantageous to achieving high cotton yields. In addition, the province's readjustemnt of its economic policy on cotton planting this year will certainly further arouse the enthusiasm of the cotton growers. The current economic policy on cotton growing has paid even greater attention than in the past to the interest of the cotton growers, making cotton more profitable to them. For instance, 100 jin per mu of ginned cotton can yield a cash income of about 200 yuan, plus an award sales of over 200 jin each of grain and chemical fertilizer. This policy promotes cotton production. We should also note that the farming activities involved in cotton production are varied and complex, and are highly technical. Each production measure requires a high sense of responsibility on the part of the commune members. With the gradual perfection of the unions forms or the production responsibility system and the carrying out of responsibility systems linking technology to output, the sense of responsibility of the cotton growing peasants and technical personnel to do well in production has risen greatly. This has helped strengthen cotton field management and enabled effective measures purported for improving cotton yields and quality to be actually implemented. The role of science and technology has been brought into full play in increasing yields. We should analyze the conditions of cotton production in a correct manner and take full cognizance of beneficial aspects while at the same time making an adequate appraisal of the threat of natural disasters and of practical problems existing in our work. Based on this knowledge, we should wrest bumper harvests from the jaws of natural disaster, promote beneficial conditions, overcome unfavorable elements and try in every way possible to boost our province's cotton production.

At present, we must seriously publicize the economic policies for planting cotton, thoroughly arouse the enthusiasm of the masses for planting cotton and, under the direction of the state plan, rapidly carry out the post-readjustment cotton field planting plans and grow good, healthy cotton. We must further stabilize and perfect the various forms of responsibility system which are suited to cotton production. Production responsibility systems are the reliable guarantees that will raise the commune members' sense of responsibility and consciousness to do a good job of growing cotton. Effective cotton production responsibility systems at present, all premised on the unified management by the production brigade, are all carried out in the forms of fixing output quotas based on work teams, specialized task teams, individual laborers or households, or the large-scale assignment of responsibilities. The essence of these systems is to take the collective ownership of land and other principal means of production as basis and carry out collective distribution of within-output quota items while leaving anything outside or beyond the quota as commune member income. This kind of production responsibility system, which simultaneously looks out for the interests of the state, the collective and the individual, corresponds to the present level of development of productive forces in the rural areas and is beneficial to the development of cotton production. Based on the wishes of the commune members, the various localities must help the communes and brigades rapidly to implement different forms of production responsibility systems according to differing production conditions and, in the course of practice, to perfect them gradually. No matter which system is adopted, it should take into consideration the characteristics of cotton, that its production is technically sophisticated, it is prone to disease and insects and its seed production is relatively complex. The system should therefore keep under unified control that which is suited to unified control and contract out whatever is appropriate. Work such as breeding seeds through hybrid cotton and controlling disease and pests must continue to be done by means of specialized contracts so as to keep these endeavors under unified control. In some communes and brigades where the area devoted to cotton growing is small and where cotton planting techniques have not been popularized, we must continue to avoid contracting cotton responsibility land to commune members who do not have the knowhow, and carry out unified management and specialized contracting. This will be more beneficial to developing cotton production.

After the problem of the relevant economic policies has been basically solved and the enthusiasm of the cotton growers whipped up, we should make the popularization of scientific cotton growing techniques an important item on our daily agenda. We must help the commune members to grasp and utilize conventional cotton growing techniques. These techniques are the basis for achieving high cotton output. If they are mastered and put into practice, it is possible to have a cotton yield of 100 jin per mu. This has been proven by many years of scientific experiment and production experience. Within a county, no matter what kind of year it is, there is always a group of communes and brigades or plots where the yield of ginned cotton exceeds 100 jin per mu. Furthermore, the vast majority of the existing cotton growing communes and brigades have all had yields equal to or exceeding 100 jin per mu at one time or another. We could say that the techniques for producing 100 jin per mu of cotton are well developed in our province. The key is to correctly grasp and apply these experiences, so that they can be implemented. It is the responsibility of the agricultural departments to adopt various measures to repidly spread conventional cotton-growing technology to all the households.

We must continue to carry out responsibility systems linking output to techniques and increase the high-yield demonstrations. Last year, some science and technology units and agricultural administrative departments signed contracts linking output to cotton-producing techniques with the communes and brigades and achieved quite good results in developing technical services. The agricultural departments of each cotton-producing district must further organize its forces and, in close cooperation with relevant scientific committees and science associations, promote responsibility systems linking output to techniques. To provide technical services through contracts, and to combine the efforts of linking output to techniques and high-yield demonstrations, plays a role in promoting large-area productions.

Cotton production is a weak link in Sichuan's agricultural production. In the last 3 years in particular, cotton output has declined continuously and the contradiction between supply and demand has become rather pronounced, affecting not only military needs and civilian uses but also the economic income of the state, collective and individuals. The leaders at various levels in the cotton districts definitely cannot consider that since the area of cotton fields has been reduced, their burden has been lightened, so that they can relax their leadership. Quite the contrary, they must exert the utmost resolve and make maximum efforts to raise single-crop cotton yields. Leading comrades at the prefectural and county levels in the cotton-producing districts must divide up the labor for cotton production. The expertise of the scientists, technicians and popularization personnel who are engaged in cotton production should be brought into full play. We must strive to raise the scientific level of growing cotton in order to promote the continuous increase in single-crop cotton yields.

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BRIEFS

LISHUI COUNTY EARLY RICE--Lishui County, Zhejiang, reaped 4.5 million jin of spring rice this year thanks to the rational application of various indigenous ash clay fertilizers and manures. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 17 Jun 82]

TEA PURCHASE--As of 15 May, supply and marketing cooperatives in various parts of Zhejiang province had purchased a total of some 770,000 dan of spring tea, or some 83,000 dan more than by the same time last year. This amount already exceeds the present target by 2 percent. [Text] [Hangzhou Zhejiang Ribao in Chinese 20 May 82 p 1 OW]

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I. GENERAL INFORMATION

INTERVIEW WITH STATE COUNCIL OFFICIAL ON DROUGHT SITUATION

Beijing ZHONGGUO NONGMIN BAO in Chinese 21 Mar 82 p 1

[Interview with official of State Council's Drought Combating Office by ZHONGGUO NONGMIN BAO correspondent: "Heighten Our Spirits; Vigorously Strengthen the Combating of Drought"; date and place not specified]

[Text] Question: At present, in which areas is the drought situation rather serious? What is the situation?

Answer: The area where the drought situation is still rather serious is the major winter wheat producing area in the northern part of our country, including Hebei, Shandong, Henan, Shanxi, Shaanxi, Beijing, Tianjin Liaoning, Jilin, and Inner Mongolia. Though rain and snow have recently fallen in part of that region, nevertheless the greater part of it is still dry. In the South, over most of the area there was too little precipitation in the first part of the winter, and too much in the latter part of the winter, so that only part of the region experiences drought.

In the country as a whole, the area presently experiencing drought is approximately 200 million mu, of which 70 million mu were given over to over-wintering crops, leaving over 100 million mu for which the spring unplowed land has become useless due to lack of moisture in the soil.

The characteristics of this year's drought situation are: First, owing to a long period of drought, the surface of the ground has retained little water, and the underground water level has dropped, creating serious shortage of water sources for irrigation. According to the statistics of 1 March stored water in the 58 large-size reservoirs in the five provinces and municipalities of Beijing, Tianjin, Hebei, Shandong, and Shanxi amounted to only 3.285 billion cubic meters, an average of 4.049 billion cubic meters less than it has been at this time of year for many years. Second, since last autumn precipitation has continued to be sparse, and the lack of moisture in the soil was disadvantageous for the turning green of the winter wheat or the spring plowing. Third, the wheat seedlings on unirrigated cultivated land are generally not doing as well as at the same period last year.

Question: How are the efforts to combat the drought progressing?

Answer: From the point of view of the present situation, every province and municipality afflicted by the drought has made considerable progress. Since last winter, Hebei has already completed 11,000 small-scale projects, and newly sunk or repaired 32,000 motor-pumped wells, increasing our new water sources for this spring's drought-combating efforts. The volume of extractable, channeled water in Shandong reached 11 billion cubic meters, so that it has been possible to proceed with spring irrigation, generating moisture into the spring fields, and spot planting the seeds. In Shanxi, broad areas of stored water such as reservoirs, ponds, and river channels ahve been utilized, and spring irrigation vigorously carried out. In some places in Henan where water was lacking, the masses have been active in transporting water, combating the drought, and preserving the seedlings. In Tianjin, methods were adopted of digging new rivers within rivers, canals within canals, and ditches within holes, and clearing and drying out the branch canals, so as to progress with digging up new sources of water. In the provinces of Shanxi, Henan, and Hebei the various levels of organizations assigned many cadres to the countryside to assist the communes and brigades in doing a good job of combating the drought and preserving the moisture in the soil. Moreover, fund is being withdrawn from the financial departments of local areas to support the struggle to combat the drought, and commercial departments are also in the process of finding ways to guarantee the supply of goods and materials needed for combating the drought. In some provinces and areas, 60 to 70 percent of the communes and brigades have already put into effect systems of responsibility for water conservancy, and have obtained excellent results in the struggle to combat the drought.

Question: In combating the drought, what should be stressed at present?

Answer: First, we must progress with doing a good job or ideological mobilization; strengthen our confidence in our ability to combat the drought and reap a bumper harvest; eliminate the pessimistic feeling that "since the April of this year falls on a lunar year, spring will be longer, there will be no rush to till the land" and to rely on nature for the rain; inspire enthusiasm; do a good job of managing the wheat fields; and strive hard to be able to do the spring sowing in time. Under the present circumstances of the area sown last fall and winter for food grain crops continuously getting smaller, we definitely must do everything we possibly can to overcome the difficulties and improve unit production.

Second, we must suit measures to local conditions, and do everything we can to dig new water sources. Under the present drought-combating circumstances, in order to rationally utilize underground water resources, we must place importance on the utilization of shallow-level water; have variety of wells and, in a planned way, utilize a number of types that require less labor and offer quicker results, such as earthen wells, hand pump wells, and vacuum wells. In areas lacking in water sources, we must organize the masses to haul water, and put into effect the method of digging a ditch, applying a handful of fertilizer, and throwing on a basin of water, in order to combat the drought and preserve the seedlings.

Third, we must set up sound systems of water conservancy responsibility as quickly as possible. At present, there is still a considerable portion of water convervancy measures for which systems of responsibility have not been set up, and they should be set up as soon as possible during this spring's drought combating efforts; particularly in areas where systems of contracting production and work tasks to households are being put into effect, there is all the more necessity for doing a good job of this. When in the course of putting systems of water conservancy responsibility into effect in the various areas many good examples appear we must propagandize and promulgate their good experience.

Fourth, we msut have a good grasp of utilizing water in a planned way, scientifically, and sparingly. We must, adapting measures to local conditions, popularize in areas to be irrigated the methods of apportioning water on the basis of acreage of land, charging for motor-pumped wells by the hour, the border method of irrigation, and furrow irrigation.

Fifth, for dry land, we must do well in raking and smoothing the soil in order to preserve the moisture in the soil; in areas having the proper conditions, we can put into effect the drought-combating sowing methods of planting seeds into holes, high-yield drainage ditch planting, and carrying water and dibbling in the seeds.

Sixth, the various levels of leaders should organize the various trades and professions to make a great effort to support the work of combating the drought and guarantee the timely supply of the goods and materials, money, oil, and electricity needed.

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CSO: 4007/353

BRIEFS

FARM MACHINERY INCREASED USE--Beijing, 18 Jun (XINHUA)--More and more farm machinery has been used in China's rural areas. Total power of farm machinery in 1981 reached 210 million hp, a 7.8 percent increase over the previous year. Included are 794,000 large and medium-sized tractors and 2.05 million small tractors. The year 1981 also saw a sharp increase in peasant households' buying farm machinery. Over 392,000 peasant households throughout China were owners of tractors in 1981. [OW181405 Beijing XINHUA Domestic Service in Chinese 0023 GMT 18 Jun 82 OW]

GOAT BREEDING CENTERS--Beijing, 14 Jun (XINHUA)--China now has 157 goat breeding centers in 11 provinces and autonomous regions, each producing 100,000 skins annually, according to the Ministry of Agriculture, Animal Husbandry and Fishery. At the end of 1981, there were 78 million goats in the country, 5 million more than in 1978, the year before these centers were set up. China's commercial departments purchased 46.6 million goat skins in 1981, 6.15 million more than the previous record year of 1963. China now ranks first in the world in the export of goat skins. Exports in the last 3 years were worth 160 million U.S. Goat breeding has helped supply the domestic market with more meat, milk, wool and casings and increased the peasants' income. Delegates attending a recent national conference in Wanxian Prefecture, Sichuan Province, called for efforts to set up more goat breeding centers, and to employ scientific methods to improve goat strains. [OW181405 Beijing XINHUA in English 1230 GMT 14 Jun 82 OW]

BEIJING, JILIN SAPLING GREENHOUSES--Beijing, 15 Jun (XINHUA)--Two new large greenhouses, one in Beijing and one in Jilin Province which will produce more than four million tree saplings a year, have started production, according to the Ministry of Forestry. The Beijing greenhouse covers an area of 5,400 square meters. Chinese juniper, deodar and other coniferous trees, as well as woody plants like roses will be grown here. The Jilin greenhouse with an area of 5,440 square meters will grow Korean pine, larch and spruce saplings. The equipment was imported. China launched a massive tree-planting campaign earlier this year. In addition to these two large modern greenhouses, many simple greenhouses and nurseries have been set up to meet the needs of large-scale afforestation. There will be an estimated 370,000 hectares of tree nurseries in China by the end of this year. [Text] [OW181405 Beijing XINHUA in English 1503 GMT 15 Jun 82 OW]

CSO: 4007/454

BRIEFS

EARLY RICE--Anhui Province will grow 11.7 million mu of early rice this year, or 900,000 mu more than last year. By 25 May, transplanting work had been completed in most rice-growing areas of the province. [OW041447 Hefei Anhui Provincial Service in Mandarin 1100 GMT 30 May 82 OW]

CSO: 4007/454

WATER CONSERVATION MEASURES STEPPED UP

OW180414 Beijing XINHUA Domestic Service in Chinese 1142 GMT 17 Jun 82

[Text] Beijing, 17 Jun (XINHUA)--The peak water consumption season in Beijing this year is approaching. According to estimates made by departments concerned, while the city needs 1.55 million dun of tap water daily, only 1.3 million dun can be supplied. A responsible person of the Beijing Municipal Water Conservation Office told our reporter that the people and various units in the capital must conserve water vigorously in order to ease the water shortage.

Beijing Municipality has experienced a water shortage due to the persistent drought during the past 2 years or more. The water level in the Miyun Reservoir, which supplies water to Beijing, has dropped below the crisis level. Most of the more than 80 reservoirs in the entire city are drying up. The subterranean water level within the city limits and in suburban districts has dropped between one and two members as compared with the same period last year and about one-third of the motor-pumped wells yielded no water. The water shortage throughout the city is expected to be more serious than last year before the arrival of the rainy season this year.

Since the emergency water consumption conference for Beijing-Tianjin called by the State Council in August last year, the Beijing Municipal People's Government has called three water conservation meetings to mobilize the people and at the same time has adopted economic measures and enforced planned water consumption to change the situation of "drinking out of the same big bucket." Certain results have been achieved in water conservation. Since August last year, steps have been taken to enforce planned water consumption in groups among the 200 factories which consumed over 10,000 dun of water monthly; measures governing additional fees at progressive rates for water used in excess of the set quota were also put into effect. After these measures were put into effect, the total industrial output value of these 200 big water consumers for the first quarter of this year increased by 8.56 percent as compared with the same period of last year whereas the amount of water consumed dropped by 10.7 percent. A total of 68 units throughout the city have abolished the system of charging water fees at fixed rates, and installed water meters for over 100,000 households. In the meantime, water meters have also been installed for more than 1,500 self-providing wells [zi bei jing 5261 0271 0064] to charge fees according to the amount of water used. These self-providing wells can conserve more than 10 million dun of subterranean water.

Although some achievements have been made in conserving water in Beijing, the wastage of water in the industrial and personal sectors in the city has been serious. Although more than 94 million dun of water can be recovered for use annually from 483 factories in the city which consume over 3,000 dun of water monthly, no action has been taken so far. More than 200 units in the city still charge a fixed water fee, which causes enormous waste of water in personal use. The responsible person of the Municipal Water Conservation Office pointed out: The lack of water resources has seriously affected economic construction and the people's livelihood in the capital. It is hoped that all units concerned will adopt effective measures and do a good job in conserving water. Those units still drinking out of the same big bucket must install separate water meters for individual households and abolish the system of charging a fixed fee for water consumed.

CSO: 4007/454

PROMOTE WHEAT PRODUCTION WITH 'THREE PRINCIPLES'

Beijing ZHONGGUO NONGMIN BAO in Chinese 21 Mar 82 p 2

[Article by Yang Fengmu [2799 1409 3092], secretary of the CCP's Wanzai County Committee, Jiangxi Province: "Put into Effect the Principle of 'Three Things to Be Taken into Consideration at Once's Promote the Overall Development of Production."]

[Text] Ever since the Third Plenum of the Central Committee, on the basis of the principles of the combination of national, collective, and individual benefits, and a common growth, we have been actively engaged in a structural reorganization of agriculture, taking into account a broad view of the overall development of cropland, soil development, hillside farming, and water conservancy projects, and applying out forces to the overall development of crop farming, forestry, herding, sideline industries, and fishing. Using the figures for 1978 as a basis for comparison, though last year we met with many kinds of natural disasters, overall production of food grains still increased by 4.3 percent; total diversified economy production increased 91.8 percent; marketable grain supplied to the state increased 8.6 percent; tax revenues paid to the state increased 39.1 percent; and commune members and the collectives income distribution increased by an average per person of 102.2 percent.

Our methods, and our understanding of the situation, can be summarized in the following points:

1. Strengthen planning direction, and guide the masses to establish the concept of the situation as a whole.

After systems of production responsibility were put into effect, some people felt that it was no longer necessary to emphasize a planned economy, and a minority of places neglected planning direction. Aiming specifically at this problem, last year the county committee, in implementing the Central Committee's and the State Council's reports on actively developing a diversified economy in rural areas, educated the broad masses of cadres and the masses in the necessity of accomplishing the "three definites"; that is, definitely guarantee the completion of the state's plans; definitely pay attention to the production of food grains, and stabilize the amount of land area to be set aside for the production of food grains; and definitely expand our attention to include our hilly and mountain areas, all of our land, and our waterways, so as to guarantee the speedy development of a diversified economy. And we directed the basic levels to combine the stabilization and perfection of systems of production responsibility with the signing of economic contracts. On the basis of the state's plans and relevant policies, we conscientiously worked out the questions of land, output (output value), remuneration, costs, rewards and punishments, farm animals, and farm machinery and tools, and also solved the problems of subsidies for cadres, families of deceased war veterans and those enjoying the five guarantees, and the livelihood of families having economic difficulties. We clarified both the duties and the rights of the state, the collective, and the individual, bringing production plans down to the level of reality. We upheld the major economic position of the production brigade; had a guaranteeing effect on the completion of the state's overall procurement and assigned procurement plans for agricultural and sideline products; and effectively overcame the phenomenon in some areas of people wanting themselves and their collectives to be well off, and not worrying too much about the state's plans. Over the past few years, our county has consistently exceeded the state's overall and assigned procurement quotas for the three main items of food grains, edible oils, and pork, changing the previous situation in which certain agricultural and sideline products could not be moved or procured properly.

2. Place emphasis on economic benefits; strengthen and increase our reproductive capability.

Being concerned about economic benefits is the core problem of economic construction, and it is also an important condition for correctly dealing with the relationship of the state, the collective, and the individual. Over the past few years, the county committee has placed emphasis on taking charge of three matters: the first was establishing specialized contracts, under a system of production responsibility in which remuneration is calculated on the basis of production. Based on the needs of the different items of production produced under diversified management, we set up specialized brigades, specialized terms, specialized households, and specialized factories and, tying in the system of calculating remuneration on the basis of economic benefits produced, conscientious in doing a good job of singing the "three operas"; that is, in developing traditional products, sing the "local area opera"; in developing "top-notch" products, of singing the "expert opera"; in developing family sideline occupations, sing the "little tricks opera." We utilized the local areas' natural and labor resources to full advantage, mobilized the enthusiasm of the broad masses of commune members, and raised the labor productivity rate and the commodity rate. No 12 Production Brigade of the Huatang Brigade, Sanxing Commune selected four and a half entire labor groups to form specialized catalyst groups, and last year they earned a net profit of 18,057 yuan, averaging 4,514 yuan per person, or 4.27 times as much as the other labor groups. As for putting into effect a system of production brigades in which responsibility for work produced rests with the households, we supported the commune members in doing a good job of combined household management, and also obtained heartening results. Last year, the combined-household-managed industrial, sideline enterprises of Dai Tang Brigade, Ma Bu Commune turned over to the collective an accumulation of 10,200 yuan, enabling the collective accumulation of the entire brigade, without increasing the burden of commune members, to increase to 48.3 percent more than last year.

The second was setting up small base areas for diversified management. The small base areas were set up by the production brigades themselves on the basis of the human and material resources available, and we did not seek to enforce uniformity. By the end of last year, 2,641 small base areas for planting, breeding of aquatics, and processing were already set up throughout the county. Concerned departments provided active support with regard to granting agricultural credits, supplying material resources, and providing information and technical guidance. Jiao Hu Commune is located in a hilly area, has rich bamboo and lumber resources, and peasants with experience in paper making. Last year, the entire commune produced 9,480 dan of locally-produced paper, from which they gained a net income of over 420,000 yuan.

The third was vigorously promoting an improvement in the quality of commodities. Fireworks and firecrackers are one of our county's traditional products, and over the past few years we have vigorously promoted improved quality for our fireworks and firecrackers; "camellia fragrance" brand fireworks have for the past two consecutive years been cited as an excellent product by the department of light industry, and "repeating fire rat," "flower basket," and "airport" fireworks, and Dunbian fireworks and firecrackers were last year cited as being among the province's excellent quality products, thus increasing the product's competitive capability and expanding the products' markets.

3. Conscientiously implement [the Central Committee's] policies, and allow the peasants to receive more material benefits.

The first step is to allow the coexistence of diversified economy, various labor organizations, and many methods of calculating remuneration, without enforcing "arbitrary uniformity," and to accomplish a situation of "making change during stability; seeking good results while making change; and improving while gaining good results." The second is correctly handle the relationship between accumulation and consumption; rectifying the past "leftist" approach that "the higher the accumulation rate, the better on the one hand, preventing from happening the tendency that "the lower the accumulation rate, the better."

The distribution among commune members is partially controlled by the approximately 85 percent of the collective's gross income. The third was actively encouraging and assisting commune members in developing family sideline occupations. As for specialized households and priority households engaged in raising pigs, fish, cattle, chickens, and long-haired rabbits, they were given priority with regard to the granting of agricultural loans, feed supply, source of breeding varieties, and the prevention and cure of diseases. The fourth was implementing the Central Committee's policies on procurement, pricing, tax revenues, and rewards, allowing the collective and the individual, under the premise of completing the state's procurement tasks, to sell their surplus products freely on the open market. Thanks to the implementation of these policies, the peasants received more material benefits. In 1981, income from family sideline occupations averaged 127 yuan per person, an increase of 50 yuan over the previous year.

9634
CSO: 4007/353

TREE BELTS, BARRIERS PROTECT CROPS, FARMLAND

OW280756 Beijing XINHUA in English 0716 GMT 28 Jun 82

[Text] Beijing, 28 June (XINHUA)--Twenty million hectares of farmland--one-fifth of China's total--now are protected by belts of trees and barriers of trees interplanted with crops to shelter the fields against wind and sand, according to the Institute of Forestry under the Chinese Academy of Forestry Science.

Of these, 16.67 million hectares are sheltered by tree belts, and 3.33 million hectares by trees planted alternately with crops, the institute said. Belts of young trees were planted this spring in the country's agricultural zones.

Planted in the belts are such fast-growing trees as poplar, locust, elm and matasequoia, the institute said. Interplanted with crops are paulownia, mulberry, date and persimmon trees. Fast-growing shrubby falseindigo has been planted in northern China's saline-alkali area.

According to tests, wind velocity and water evaporation in farmland protected by tree belts are reduced by 30 to 40 percent, while moisture is increased by to to 20 percent.

Tree belts now protect large tracts of farmland in China's major agricultural zones--the northeast China plain, the Yangtze River plain, the Pearl River delta and the north China plain, the institute said.

Half of farmland on the north China plain, eight million hectares, are sheltered by tree belts. Five belts in the eastern part of Henan Province total 520 kilometers in length, according to the institute.

The belts help protect crops against typhoons, dry, hot winds in early summer and cold waves in late autumn.

Under the protection of tree belts, a 3-day storm in May of 1981 caused no substantial damage to 4,300 hectares of crops in a people's commune in the eastern part of the inner Mongolia autonomous region, but it swept away 20 centimeters of surface soil of nearby farmland which had no such protection.

China's tree belts were first planted in the early 1950s on the lower reaches of the Yongding River in north China and the reclamation area in the Xinjiang

Uygur autonomous region and on the old course of the Yellow River in Henan Province, according to the institute.

In the 1960s, many people's communes built tree belts along the sides of fields, roads and ditches. These belts, which occupy little famrland, have appeared in the populous southern China and the Sichuan basin.

Every year these belts produce large quantities of timber, fuel, fruits and fodder, thus increasing peasants' income. The belts built in the 1950s have been regenerated, the institute said.

All these belts are built by peasants with state aid, it said. Forestry experts and technicians design the belts for them. To date, four national conferences have been convened to exchange and spread the experience in building tree belts.

CSO: 4020/124

CONTRACT DISPUTE ARBITRATION, REVISION EXPLAINED

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL AFFAIRS] in Chinese No 4, 1982 pp 31-33

[Article by Gong Zheng [7895 2973]: "Arbitration of Disputes, Changes and Revisions in Agricultural Economic Contracts"]

[Text] I. Changes and Revisions in Agricultural Economic Contracts

After a contract is signed, each signing party normally can carry out the provisions stipulated in the contract. But this is not an absolute. Agricultural production is conditioned by many factors, e.g., its long production cycle, its strong seasonal and regional nature, its dependence on natural conditions--all these things give agricultural economic contracts special features with regard to complexity, continuity and repetitiveness. When a contract is signed, although the two parties can pay attention to the above-mentioned special features, there will be changes in natural factors, and frequently no human power is able to resist natural disasters. Objectively, this causes to exist in agricultural economic contracts the possibility for change and the necessity for revision. Besides natural factors, there are some other factors that make it at times necessary to change or revise the original contract. In addition, various localities lack experience in signing contracts, and so at times it is unavoidable that there will be imperfections in the contracts. We cannot, because of stressing the strict carrying out of the contract, rigidly adhere to the terms of the original contract and not make changes or revisions. On the contrary, this would make fulfillment of the contract difficult. We retreat in order to advance; we change in order to better carry out and perfect the contract and to arouse the enthusiasm of the two parties for carrying out the contract and doing a good job in production. Practice proves that, after one of the contracting parties is hit by natural adversity, the timely readjustment of the contract quotas can strengthen the confidence of the contracting party so that he will strive hard to fulfill the readjusted quotas.

Under what conditions can a contract be changed or revised? One condition is that a contracting party has been hit by an irresistible natural calamity such as wind, hail, flood, or frost and is quite far from realizing the original quotas for output quantity or quality, and the contracting party doesn't have the power to bear the entire loss in carrying out the original contract. In this case the quotas should be readjusted. The second condition is when, because of changes of a policy nature, after the signing of a contract the prices of agricultural means of production are readjusted, so that the changes in the prices of overpurchased or discussed purchased items affect the output value and the cost contracted for. In this case, the original quotas should be readjusted. The third condition is when, during the carrying out of the original contract, it is discovered that arrangements have not been fully made, and if a readjustment is not made the fulfillment of the contract will be adversely affected. In this case, appropriate changes should also be made. In brief, readjustments and changes are to be effected under the principles that they will be of benefit to the better carrying out and fulfillment of the contract and will be of benefit in arousing the enthusiasm of the two parties for carrying out the contract.

Changes or revisions in a contract can only be effected after one party puts forward a suggestion and asks for and obtains the agreement of the other party. If for example, a production team wants to change the terms of an original contract, it must start a democratic discussion among the commune members. Contracts changed by only one of the parties, or contracts in which both parties secretly agree to make changes, are null and void. Contracts that are changed or revised must be reexamined and approved.

II. The Side That Breaks an Economic Contract Is Responsible for Making Compensation

After the contract system was put into effect, the production team's right to make independent decisions was further insured by the use of the contractual form. The economic relations between the commune and production team, between the production team and other enterprises and organizations, are linked by the contract system. Objectively, this demands that each unit that signs a contract establish a strict responsibility system and that whoever breaks the provisions and rules of the contract must be responsible for making economic compensation.

On first hearing of making economic compensation it sound as it it were a negative measure, but actually it is a positive measure. To investigate which side is responsible for making compensation when a contract is broken is a necessary condition for seeing that the supply side provides the contracted goods to the demand side and for insuring social reproduction and social consumption. A necessary condition for insuring the supply side's normal production and management is for the demand side, according to the contract, to receive the products and, in a timely fashion, to pay and fulfill its remuneration obligations. Therefore, to investigate which side is responsible for compensation supervised and promotes the better fulfillment of the contract by both sides, and spurs the contracting parties to improve management and administration, and the mutual aid and coordination between enterprises. The responsibility for compensating a breach of contract is not only an economic responsibility, but also a legal responsibility; if one side does not fulfill the contract, the other side has the right to bring suit in a people's court.

How is the responsibility for making compensation decided? A unit that breaks an economic contract and assumes responsibility for making compensation ordinarily should have made a mistake in carrying out the principle of responsibility. The mistakes include both intentional and unpremeditated mistakes.

If a unit clearly knows that its action will adversely affect the fulfillment of the contract and intentionally goes ahead and takes this action, then this is an intentional breach of contract; a unit should foresee that its action could adversely affect the fulfillment of the contract, because to neglect the main idea and not foresee this, or to foresee this but not take measures, is an unpremeditated breach of contract. For both intentional and unpremeditated breaches of contract, there is normally a responsibility to make compensation. If the contract was broken because both sides committed errors in making the contract, then both sides should separately bear their relevant responsibilities. Whatever side has subjectively been at fault should normally be held responsible for making compensation. If subjectively there is no fault, then usually there is no responsibility for making compensation; in this case people can only conscientiously fulfill the contract.

Based on the principle of responsibility for faults, if the contract was broken because of irresistible calamities (like flood, drought, hail, earthquakes, etc), there is an exemption from responsibility for making economic compensation. When, because of a fault in work by a leadership organization there is a change in plans that cause an enterprise to break a contract, the enterprise should not be held responsible. Instead, the leadership organization or the department in charge of the work should be held responsible. That some enterprises break contracts is not because they themselves are at fault but because a third party breaks the contract. For example, B does not supply to A the complete output stipulated in the contract because C did not complete its responsibilities for field management under the terms of the contract and caused a reduction in output. In this case, B should compensate A for the latter's losses, and at the same time B has the right to recover its losses from C, so that in the end the responsibility for making compensation falls on C, which was at fault. This way of doing things is advantageous for the strengthening of the responsibility system between units and between the unit and the individual, and avoids a mutual shifting of responsibility.

III. The Mediation and Arbitration of Contract Disputes

Mediation and arbitration of contract disputes are important parts of contract management. If a dispute arises in the course of carrying out a contract the two contracting parties should take the initiative to hold discussions in order to strive as far as possible for a rational solution. If the discussions don't work, any side may, according to the limits of the authority controlled by the contract, request mediation and arbitration by the industrial and commercial administrative and managerial department in the county where the other side is located or at the district level of large or medium-sized cities. At present, the mediation and arbitration of economic contracts within the agricultural system still does not have clearly stipulated administrative organizations and arbitration procedures. Ordinarily the higher level professional department where the other side is located can be asked to mediate and arbitrate. With regard to contract disputes, our country practices a method of two-level arbitration: responsible for arbitration at the first level are the industrial-commercial administration bureaus in counties (cities) and in districts of municipalities directly under the province; responsible for second-level arbitration are the industrial-commercial administration bureaus in municipalities directly under the province, in prefectures, and in municipalities directly under the central government. Industrial-commercial administration offices can mediate but do not have the task of arbitrating. But the mediation document and the arbitration decision document have equal force. If a side refuses to obey the arbitration decision, it has, beginning with the day after it receives the arbitration notice, 10 days to appeal to the next higher-level organization that supervises contracts for a reconsideration of the decision, and this is the second-level arbitration. If it still refuses to obey the reconsidered arbitration decision, it has, beginning with the day after it received the reconsidered arbitration (second-level arbitration) decision notice, 15 days to bring the case to a people's court. If the time limit for appealing the decision or taking it to court is exceeded, and the side still refuses to carry out the arbitration decision, the bank should, according to arbitration notice, transfer the payments or compensation money that the contract-breaking unit is required to pay from the unit's account. When the contract dispute is being dealt with, if it is discovered on investigation that a person or act is criminally actionable, the contract-supervision organization will refer the case to a people's court for trial. The time period within which a mediation or arbitration can be appealed is usually set as within 1 year from the day the party has the right to appeal, and when the time limit is exceeded the party loses the right to appeal.

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CSO: 4007/402

BRIEFS

TYPHOON NO 5--The Central Meteorological Observatory issued a typhoon report at 1800 [1000 GMT] today: This year's typhoon No 5 was spawned at 1400 [0600 GMT] today about 320 kilometers southeast of Hainan Island, China, 17.8 degrees north latitude and 113.2 degrees east longitude. Maximum wind force near the center of the typhoon ranges from force 8 to 9. It is estimated that the center of the typhoon will move slowly in a northwesterly direction gradually approaching the coastal area of western Guangdong. Areas affected by the typhoon are: Tonight and tomorrow, in the northwestern part of the South China Sea, the Beibu Gulf, the coastal areas of western Guangdong and Hainan Island, the wind force will gradually increase to force 6 to 8. Areas along the path of the typhoon will experience strong winds of force 8 to 10. Heavy or torrential rains are expected in the coastal areas of western Guangdong and Hainan Island. All units concerned, please pay attention to weather forecasts by local meteorological stations. [Text] [OW281920 Beijing Domestic Service in Mandarin 1200 GMT 28 Jun 82]

NORTH CHINA PROJECT APPROVAL--Beijing, 20 Jun (XINHUA)--The North China Plains Agricultural Project, China's first agricultural construction project to be built partially with the World Bank's interest-free loan, was recently formally approved by the State Council. This project includes the harnessing of some 3 million mu of saline-alkaline land and land susceptible to waterlogging in 9 counties in Shandong, Henan and Anhui. The total amount of investment is 350 million yuan, 34 percent of which will be offered by the World Bank--the international development association--as an interest-free loan. According to the plan, the total grain output of the 9 counties can increase by 44 percent after the project is built. [Beijing XINHUA Domestic Service in Chinese 0137 GMT 20 Jun 82 OW]

CSO: 4007/454

ATTENTION TO INCREASE IN LIVESTOCK BREEDING URGED

Improvements Noted

Lanzhou GANSU RIBAO in Chinese 10 Apr 82 p 1

[Article by Shen Weixuan [3088 1983 5503]]

[Text] Recently the Provincial Department of Animal Husbandry convened a provincewide conference for the exchange of experiences on improved breeding of large livestock animals in Zhangjiachuan Hui Nationality Autonomous County. At this conference a group of advanced units and individuals received commendations, and this year's tasks for making improvements in the breeding of large livestock animals in the province were set.

The conference noted that once the rural villages of the province had universally instituted various forms of production responsibility systems, the broad masses of commune members urgently required adequate draft animal power to engage in agricultural production. They not only actively purchased large livestock animals but painstakingly raised the large livestock animals that were available, and gave attention to protection of dams to breed young. As a result of large scale breeding and propagation, the work of improving large livestock animals won heartening achievements. In 1981 improvement of oxen through the use of frozen semen overfulfilled plan by 39.6 percent for the province as a whole. This was a 1.8 fold increase over 1980. New progress was also made in the selective breeding of local varieties of Hepu [3109 2575] horses, white yaks, and Bactrian camels. Nevertheless development of large livestock animals for the province as a whole continued slow and was unable to meet needs for development of agricultural production. Considerable difficulties urgently in need of solution existed in the work of improving large livestock animal breeding. The main problem was a shortage of stud animals in many places and an insufficiently even distribution of existing stud animals, poor management of the raising of animals, and failure to make the most of advantages. Breeding organizations were not sufficiently well established and no complete breeding systems had been formed. The standards for improving the breeding techniques were relatively low; personnel turnover in the breeding crops was excessive, and the mating and breeding rate, conception rate, and the breeding survival rate was all relatively low. Selection of the local varieties that are to be bred, and the general inspection and authentication of the kind of stud animals had yet to be developed in an all-around way.

In order to change the aforestated situation, the conference proceeded from an exchange of experiences to discussion and confirmed this year's tasks for improving the breeding of large livestock animals in Gansu Province. It required all jurisdictions to take firmly in hand the tasks listed below, to widely launch a large livestock animal breeding competition of "the offspring from every two female parent animals" to lay a foundation for further development of large livestock.

1. Strengthen leadership and strive to build a complete large livestock breeding system. Comrades in positions of primary leadership are to personally direct action, to supervise and inspect, and to solve existing problems in concrete ways. All prefecture and county farm livestock bureaus and livestock veterinary stations are to have specialists in charge of the work of improving large livestock animal breeding. In the building a breeding organizations, the country, the collective, and individuals should all have a part, and on the basis of distribution of dams, rational distribution should be made to form a large livestock animal breeding network.

2. Large scale growing of hay to provide relatively good conditions for raising dams. In addition, vigorous promotion should be given silage feeds and mixed feeds, allowing the bringing into play of a greater role for existing hay and feed.

3. Redistribution, breeding by selection, and allocation and sufficient supply of varieties of stud animals. Stud animals used for breeding should primarily be those varieties that meet local specifications, local propagation and breeding for local use being adhered to. Prudence should be exercised in the introduction of stud animals from elsewhere, and they should be introduced only after observation and authentication. Sufficient feed management conditions should also be assured. Vigorous efforts should be made to promote artificial insemmination techniques to make full use of stud animal breeding capabilities.

4. Attention to technical training work fot the building of a stable, technically proficient breeding improvement crops.

5. Establishment of breeding responsibility systems and institution of breeding improvement tasks. Tasks, earnings, and expenditures may be set with rewards given for overfulfillment and penalties levied for underfulfillment. Either basic wage or variable wage plus bonus systems may be instituted. In addition, animal breeding households and breeding stations should be educated, and both quantities bred and fees collected should be reasonable and within bounds, increases in earnings deriving from guaranteeing conception of female animals.

Increases Urged

Lanzhou GANSU RIBAO in Chinese 11 Apr 82 p 2

[Text] Large livestock animals are presently the main source of power and of fertilizer for the agricultural production of Gansu Province. Development of large livestock animals is also a major way in which to enliven the rural economy and increase the income of the masses. After rural villages instituted agricultural production responsibility systems, the broad masses of commune members urgently demanded able-bodied men and sturdy horses for intensive and meticulous farming. Enthusiasm for the breeding of improved large livestock animals ran very high. All levels of party and government leaders as well as farming and animal husbandry units should adroitly guide action according to circumstances, help the masses, and vigorously develop large livestock animals.

Gansu covers a vast expanse of territory in which differences in ecological conditions are fairly great. When developing the work of improving propagation of large livestock animals, it is necessary to base oneself on actual local conditions, adapt general methods to local situations, and proceed on the basis of one's own strength and ability. Consequently, stud animals must be selectively bred from local breeds with local propagation and local breeding being done for local use. Prudence must be exercised in the introduction of breeds from elsewhere. Experimentation and observation must be done, and there must be dependable conditions for care, management, hay and fodder. Otherwise, not only will economic losses be created but difficulties will ensure for the work of improvement later on. When selecting breeding methods, one must also be careful to proceed from realities.

Household feeding and breeding of livestock is the traditional method of propagating livestock in the rural villages of Gansu Province. Breeders travel the countryside going from village to village. This is a convenience for the masses and meets both the level of productivity and the dispersed farming of the province's rural villages. It helps the breeding and improvement of large livestock animals. It is necessary to explain clearly to cadres and the masses that animal breeding households that contract for state and collective breeding stock are a form of specialized contracting in agricultural production responsibility systems. When individuals pool funds to buy breeding stock and carry out a breeding business, all earnings become their own, and this is as it should be. Apprehensions about the development of livestock breeding households should be eliminated, understanding rectified, and active support given them.

Qingming [around 5 April] has passed, and soon the season for breeding large livestock animals will be here. The busy season for breeding of oxen, horses, and donkeys generally lasts only 2 or 3 months. It is hoped that all jurisdictions will take opportunity to actively develop breeding work allowing dams of suitable age to become conceived in time to win further development of large livestock animals in Gansu Province

Linxia Zhou's Livestock Industry

Lanzhou GANSU RIBAO in Chinese 10 Apr 82 p 1

[Article by He Qijun [0149 0366 6874]]

[Text] Remarkable development has taken place in livestock industry production in the Linxia Hui Nationality Autonomous Zhou. Statistics show 590,190 sheep and goats in the zhou, more than 90,000 more than the all time high. Large livestock animals number 188,300. Government has given powerful support in funds for development of the livestock industry. Last year the zhou used 817,500 yuan for development of the livestock industry. Loans issued for development of the livestock industry in the zhou amounted to 3,554,000 yuan. In addition, all jurisdictions have promptly designated for the masses "three wastelands," and have mobilized the masses to use every means for the large scale growing of hay. Last year the zhou used a reasonable amount of cultivated land plus barren mountains, and wasteland slopes to grow more than 84,000 mu of hay. Farming and livestock units at all levels have adopted effective means and have devoted efforts to the scientific raising of livestock. One thing they did was actively train technical personnel. Second, they built or enlarged artificial insemination breeding sites, and third, they developed improved sheep and goats.

Attention to Livestock Breeding

Lanzhou GANSU RIBAO in Chinese 10 Apr 82 p 2

[Article by Improvement Office, Provincial Livestock Department]

[Text] The number of livestock in Gansu Province began to rise again beginning in 1979, Development occurred during 1980, and the heavy disaster year of 1981 was an all time high year for livestock in inventory, the number amounting to more than 4.12 million, a 5.2 percent increase as compared with 1980. However, common problems now are a low breeding rate, a low pregnancy rate, and a low rate of pregnancies continuing to term. Survey shows only a single young animal is produced each year per three or even four or five female animals of proper age. This state of affairs seriously impairs development of the livestock industry. In order to change this backward situation with all possible speed, vocational units everywhere should pay strict attention to the livestock breeding season and strive to accomplish the following:

Give wide-ranging propaganda to the economic significance of much breeding, many pregnancies and much survival of all kinds of livestock. A competitive campaign of "the offspring from every two female parent animals" should be launched. Were all jurisdictions able to increase to more than 50 percent the survival rate of young born from female livestock of proper age, within a year the province as a whole would increase by 500,000 to 600,000 the number of livestock born.

Deeply probe realities, investigate and study, and do an effective job of finding out the real situation about stud livestock and dams. All jurisdictions should organize a force in conjunction with this year's spring prevention work to survey and find out exactly the situation regarding breeding, pregnancies and rate of pregnancies continuing to term during the past 2 or 3 years as a proportion of the number of dams of animals of all kinds currently able to reproduce. All breeding stock should be distinguished according to specie whether studs or dams, and form of ownership, feeding, care and use should be fully ascertained for gradual authentication and issuance of certificates. Those that do not meet specifications should be eliminated in a planned way. In places having insufficient numbers of stud animals, local breeds of studs should be bred for use and effective action taken so that dams will be bred often and have many pregnancies. Stud animals should be equitably distributed; conscientious work should be done to transfer breeding stock from areas of surplus to areas of scarcity and to cull some out, with replacements made to solve problems of inadequate numbers of breeding stock. When breeding stock are contracted to households, resales at a profit or sterilization of animals for use as draft animals is to be strictly prohibited.

State owned and jointly owned breeding stations should be conscientiously operated and full use made of the role of peasant households, with no missing the season for getting breeding done. Best use should be made of traditional peasant household or jointly owned breeding stations for vigorous development, appropriate support being given them with breeding stock and funds, and technical guidance provided as well. They should be organized to travel about the countryside to do breeding on market days. Commune veterinary stations and county run breeding stations are to institute independent accounting, do specialized contracting, closely link rights, responsibilities and profits, arouse their enthusiasm and sense of responsibility about serving the masses, and adopt scientific techniques in mating local livestock animals, in artificial insemination, and in use of frozen semen for artificial insemination to raise the breeding rate for dams of proper age.

All levels of livestock veterinary stations should designate a person responsible for attention to breeding work. They should require a 70 percent breeding rate for dams of bearing age, a pregnancy rate of 80 percent, and a 90 percent young livestock survival rate. They should assure a 50 percent breeding survival rate. Breeding stations should be required to treat dams with obstetrical disorders, breeding them after the disorders have been cured. Delivery of semen at the right time should be accurately mastered and wide publicity given to scientific knowledge about fattening of animals, preserving weight and preserving pregnancies, light use of animals for draft purposes, and ways of preventing miscarriages to increase the number of pregnancies that go to term.

Timely summarization of experiences in breeding work to give impetus to breeding work. Good examples and scientific experiences that take place in peasant household or jointly owned breeding stations or at state owned breeding stations should be promptly summarized and widely publicized to give impetus to breeding work.

9432
CSO: 4007/399

RECORD HIGH SUGARCANE, PEANUT ACREAGE NOTED

Guangzhou NANFANG RIBAO in Chinese 19 Apr 82 p 2

[Article: "Zhanjiang Prefecture Sets All-Time Record for Area Planted to Sugarcane and Peanuts While Not Slackening Grain Production"]

[Text] While not slackening grain production, the province's sugar and oil production base of Zhanjiang Prefecture has striven to expand its sugarcane and peanut growing area. Statistics as of 11 April show 1 million mu of sugarcane planted throughout the prefecture, more than 240,000 mu more than last year, and more than 1.2 million mu of peanuts planted, more than 50,000 mu more than last year. The growing area for the two crops has surpassed the all-time high.

Zhanjiang Prefecture has frequent natural disasters and grain production is extremely inconsistent. This plus reduction of yields from the late crop last year as a result of disasters has meant a fairly weak foundation for grain production. Consequently, when all levels of CCP committees readjusted production patterns to enlarge the sugarcane and peanut growing area, they did not slacken grain production. Prefecture plans called for a grain increase this year of 320 million jin to be obtained largely from increases in yields per unit of area and by efforts with hybrid rice. In order to do a good job in paddy rice production, ever since last winter the prefecture has trained more than 396,000 peasant scientific personnel to lay a foundation for improving rice farming techniques, and particularly hybrid rice farming techniques.

In enlarging the area planted to sugarcane and peanuts, Zhanjiang Prefecture has stressed both increases in yields per unit of area and in total output. This year all jurisdictions are fairly attentive to the promotion of advanced techniques, to scientific farming, and to increased applications of base fertilizer in an effort to get full stands of sturdy seedlings and increase yields per unit of area. Dianbai County, the famed peanut production area, convened a conference for discussion of high peanut yields during mid-January for the purpose of increasing peanut yields this year. This conference summarized and exchanged experiences and put forward six measures for high peanut yields this year. As of now this county has already planted 205,000 mu of spring peanuts, 5,000 mu more than plan. In Suiqi County where peanut production has been historically low, the County CCP Committee and County People's Government allocated 70,000 yuan of public funds to bring in from outside the county 146 peasants versed in peanut growing to provide technical guidance, one peasant versed in peanut growing for each production brigade. Now the county has planted 130,000 mu of peanuts and planting quality is everywhere better than in former years.

9432
CSO: 4007/410

BRIEFS

REHABILITATION MEETING--On 5 June, the Guangdong Provincial Economic Committee held a meeting of railroad, port, sea transport, shipping, grain and fuel departments on further arranging measures for crash-transporting materials which are urgently needed to restore production and normal life in disaster areas. According to information, some 300,000 tons of coal, some 93,000 tons of wheat and some 56,000 tons of chemical fertilizers must be transported by ship through Huangpu Port and some 72,000 tons of grain must be transported by train. Representatives from various relevant departments who were present at the meeting declared that they would make concerted efforts to crash-transport materials as quickly as possible. [HK080702 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 5 Jun 82 HK]

LOW-YIELDING FARMING--At the Guangdong Provincial meeting on improving low-yielding farmland, the Provincial Agricultural Committee Chairman Du Ruizhi said that there was a bright prospect for the province's basic farmland construction and that the low-yielding farmland would be improved. Comrade Du Ruizhi summarized the province's situation of improving low-yielding farmland by saying that the masses were more interested in improving low-yielding farmland, the cadres were more capable in carrying out measures, the leaders had been attaching more importance to the task and the result was getting better and better. After visiting some advanced units, the participants have strengthened their resolution in improving the low-yielding farmland. [HK140519 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 9 Jun 82 HK]

WATER HYGIENE CONFERENCE--The Guangdong Provincial People's Government recently held a conference in Xinhui County on improving water hygiene for the rural population. The conference decided that the province would improve water hygiene for 2 million people in rural areas within this year and 8 million people in rural areas within 3 years. This was the first provincial conference which was held by the Provincial People's Government on improving water hygiene. Some 140 responsible people of all prefectures, counties and municipalities attended. Vice Governor Yang Kanghua spoke. Over the last 2 years, the province has made efforts to improve water hygiene. The province has now supplied hygienic water to 3 million people in rural areas throughout the province and some 70 percent of this water is tap water. At present, some 13 million people in rural areas in the province still use water from rivers and ponds as drinking water and 1.5 million people use water from ditches, lakes, wells and streams as drinking water. Due to unhealthy drinking water, enteric epidemic diseases occur year-round. Agricultural chemical poisoning and food poisoning occur often. The incidence of tumor increases year by year. This is a major task to which the great attention of people's governments at all levels must be drawn. The province must rely on its own efforts to improve water hygiene in rural areas. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 11 Jun 82 HK]

GUANGDONG PEASANTS PURCHASE TRACTORS--At present, peasant households in Guangdong Province have individually or jointly purchased some 63,000 tractors, which constitute about 40 percent of the total number of tractors used in agricultural production throughout the province. According to statistics, the total amount of work done by tractors in spring farming this year in the province was 12.4 percent more than in the corresponding period of last year. Peasant households in Huiyang prefecture have individually or jointly purchased some 11,000 hand-held tractors throughout the prefecture. From January to April this year, the province trained some 21,000 new tractor operators. [HK250709 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 22 Jun 82]

BAKING DEMONSTRATION--In order to improve quality and achieve more varieties of bread to meet the people's needs in daily life, the Guangdong Provincial Food Industry Association sponsored a technical demonstration of bread baking and invited an Australian expert (Dennis) to provide technical instructions. After repeated experiments, initial results have been achieved in improving bread production. "Yesterday morning, accompanied Guangzhou Vice Mayor Zuo Ming, First Secretary of the Guangdong Provincial CCP Committee Ren Zhongyi inspected the technical demonstration of bread baking by the Australian expert. He had a cordial conversation with research workers who attended the demonstration." Comrade Ren Zhongyi said: "Production bread which is inexpensive and good is an important work of directly serving the masses. In particular, it is a matter of significance in Guangdong to gradually increase the supply of cooked wheaten food and change the habit of eating rice alone. This will provide people with more nutrition and build up their helath. To attain this objective, we should enhance the quality of cooked wheat food and increase its variety so that the masses will like to eat it." Comrade Ren Zhongyi added: "Food processing should be geared to the needs of the society and be carried out by factories. In doing so, we can free more people from housework so that they can devote more energy to the four modernizations." [Summary] [HK220800 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 21 Jun 82]

GUANGDONG EXPORT OF LITCHI--To strengthen the management of the export of Litchi, the Guangdong provincial people's government has decided to implement a permit system for the export of Litchi from today. In accordance with this regulation, the export of Litchi in the province must be conducted by the Guangdong provincial food import and export branch company and its subordinate branch companies and no other units or individuals are allowed to conduct the export of

Litchi. Tourist departments and Litchi production places must not organize tourist activities which include eating Litchi free of charge in its production places. Units which conduct the export of Litchi must apply to the provincial foreign trade bureau in advance for an export permit. The customs can only allow the export of Litchi on the production of an export permit. This regulation is applicable to Shenzhen, Zhuhai and Shantou special economic zones. [HK211103 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 15 Jun 82]

HAINAN RUBBER PRODUCTION--With the support of people of various nationalities in Hainan Li-miao autonomous prefecture, Tongza Agricultural Reclamation Bureau has developed rubber production relatively quickly. Last year, it produced some 30,000 tons of dry rubber. In accordance with the spirit of the state council's decision on speeding up Hainan construction, the agricultural reclamation bureau recently appropriated profit retention funds of 3.18 million yuan for all counties, communes and brigades in the autonomous prefecture. [Haikou Hainan Island Service in Mandarin 0330 GMT 20 Jun 82 HK]

CSO: 4007/455

MEETING ON RURAL WORK, ECONOMIC CRIME

HK120438 Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 11 Jun 82

[Excerpts] According to GUIZHOU RIBAO, the Provincial CCP Committee held a conference of prefectural and municipal CCP Committee secretaries from 31 May to 8 June. The meeting concentrated on discussing the basic tasks in the next stage of rural work and the question of launching in depth the struggle against serious economic crimes. The meeting held: Since the 3d plenary session of the 11th Central Committee, the province has followed the central measures on readjusting the rural policies, acted in light of Guizhou reality, and adopted the following four main measures:

1. We have promoted various types of production responsibility system linking remuneration to output. In this way we have effectively eliminated the defect of eating out of a big pot, which existed for a long time in the collective economy, and greatly mobilized the peasants' enthusiasm.

2. We have instituted the guiding principle of actively promoting diversification without the slightest slackening of grain production, initially carried out agricultural restructuring, and promoted the development of commodity production.

3. We have reduced the excessively heavy state grain procurement quotas and raised the procurement prices for agricultural and sideline products. This has eased the peasants' burden, and they have gained real benefit.

4. We have opened up the rural trade fairs, expanded the circulation channels, and further enlivened the rural economy.

Practice has proven that the system of assigning the land to each household in exchange for fixed levies is not only an effective measure for solving the peasants' food and clothing problems but is also a new starting-point for probing the building of modernized agriculture that suits the province's reality.

The large-scale changes are now basically over. In the new situation, the task of protecting and developing the productive forces is laid before us. The basic task in the next stage of rural work should be to strengthen the party's ideological and political work in the rural areas, fully perfect the production responsibility systems, and protect and develop the agricultural productive forces. In accordance with this basic task, the meeting demanded that the party committees at all levels do a good job in the following respects:

1. Uphold the socialist orientation and fully perfect the production responsibility systems. We must grasp ideological education--the cardinal link--continue to correct the liberalization trends of small production, and enhance the socialist awareness of the cadres and masses.

2. Take steps to protect and develop the agricultural productive forces. In order to do this, it is necessary to study and map out a new strategy for promoting all-round agricultural development. In light of actual Guizhou conditions, under the premise of ensuring steady growth in grain production, we must speed up the development of diversification, promote the contract system in an all-round way and strengthen planning guidance over agriculture, vigorously popularize agricultural technology and turn science and technology into practical productive force, improve commodity circulation and further enliven the rural economy, and support poor rural units and households according to the circumstances.

3. Rectify and readjust the leadership groups at all levels and improve the combat-effectiveness of the party organizations. In order to strengthen party leadership over rural work, it is essential to work from top to bottom and carry out ideological rectification and the necessary organizational readjustment of leadership groups at and above commune-level and of brigade party branches. The rectification and readjustment of the leadership groups must be carried out in batches. It is first necessary to solve the problems of a few weak and lax leadership groups at and above commune-level and of some paralyzed and semi-paralyzed brigade leadership groups.

The meeting also pointed out: We absolutely cannot relax planned parenthood work. We must grasp the two kinds of production together and strictly control population growth.

On the struggle against serious economic crime, the meeting held: We have already achieved initial success, however, the development is uneven, and it is essential to strengthen leadership and carry out the struggle in greater depth. Judging by the facts unearthed in various places, there is rampant economic crime in Guizhou. This has done great and shocking harm to socialist construction.

The meeting held: The central decision to launch a struggle to hit at serious economic crime is extremely necessary and correct and of great significance. However, there is still resistance to launching this struggle. This is mainly because certain leadership cadres with inadequate understanding cannot see the gravity, harm and danger of illegal and criminal activities in the economic field, nor do they realize the importance of waging this struggle. Hence they are slow and ineffective in action. There are also people who have accepted the lessons of movements of the past in a negative way, harbor lingering fear, are full of misgivings, and maintain a philistine notion of "growing more flowers and less thorns." They cannot take a clear-cut stand in grasping this struggle. Some leaders are afraid of drawing the fire onto themselves due to their own involvement, and take an attitude of resisting this struggle. They even harbor criminals.

In view of this situation, the meeting put forward the following specific demands for further launching the struggle:

1. Study in depth the relevant central instructions, enhance understanding of this struggle, and change the situation of weakness and ineffectiveness. CCP committees at and above county-level must spend some time in further studying the central documents in connection with reality. They must heighten understanding and grasp the weapons.

2. Strengthen leadership. The principal leading cadres must personally concern themselves with the investigation and handling of important and major cases, and help the case workers to clear away resistance, analyze the cases, get a clear picture of their nature and handle them in an appropriate way.

3. Grasp the points of emphasis and the policies and tackle the cases well.

4. Closely coordinate actions. The party's discipline inspection departments and the government's public security, procuratorial, judicial, and industry and commerce administrative departments must promptly exchange information and look into close cooperation. They must not go their own way and push problems across the table at each other.

5. Give full play to the power of the policies.

6. Taking the struggle against serious economic crime as the cardinal link, it is necessary to strictly enforce party discipline and correct party work style. This is a most realistic and effective measure for rectifying the party and work style in present circumstances. Unhealthy trends in the party conceal economic crimes, while economic crimes promote the growth of unhealthy trends. Hence, while hitting at serious economic crimes, it is also necessary to do well in investigating and handling other serious violations of law and discipline.

CSO: 4007/454

HEILONGJIANG

SERIOUS DROUGHT, INSECT PESTS REPORTED

SK150517 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 14 Jun 82

[Excerpts] The Provincial People's Government held a telephone conference on the evening of 14 June to urge the people throughout the province to swing into action to deepen the struggle to combat drought, eliminate insect pests and protect seedlings so as to reap a good harvest this year. Deputy Governor Wang Caoli chaired the conference. Comrade Wang Liming, secretary of the Provincial CCP Committee and deputy governor, spoke.

Comrade Wang Luming pointed out: Soil moisture in most areas of our province is sufficient this year. During the spring sowing period, temperatures were high and seedlings emerged earlier and grew well. Since early May, however, consistent high temperatures without rain have prevailed in the province to make drought and insect pests more serious with each passing day. The drought and insect pests, which are still developing, are characterized by the serious effects they caused, the large areas they have afflicted and by their rapid development. They pose a great threat to a good harvest. So far, drought has appeared in 55 towns and counties, afflicting 37 million mu, of which 15 million mu are seriously afflicted. Grown grass borers, which are sporadic destructive insects causing comparatively great damage, have appeared in great numbers in 28 towns and counties. The areas they inflict, their density and [words indistinct] are greater than in 1980, when they caused great damage. A great number of grown armyworms have also appeared in the eastern part of our province. For this reason, to win a success in the struggle to combat drought, eliminate insects and protect seedlings have become urgent fighting tasks in our efforts to reap a good harvest and achieve 30 billion jin of grain output.

Areas where drought is serious should make full use of all water sources, such as rivers and ditches, and build makeshift pumping stations to expand irrigated areas. All pump wells should be put into operation and all water-delivery tools should be used to irrigate fields to protect and save seedlings. We should mobilize the masses to inspect the fields and replant seedlings where necessary and see to it that [words indistinct]. Management of water for paddy fields should be strengthened so that seedling transplanting and irrigation can be successfully accomplished. Paddy fields for which water supply is impossible should be changed in good time into fields of early-ripening soybeans.

CSO: 4007/454

NEW EMPHASIS GIVEN RAISING OF PONDFISH

Harbin HEILONGJIANG RIBAO in Chinese 17 Mar 82 p 1

[Article: "Nenjiang Prefecture Hastens Development of Fish Raising Industry. Readjusts Production Programs For Use of Natural Resources"]

[Text] Nenjiang Prefecture has readjusted its fishing industry production programs. While adhering to state ownership as the mainstay and communes and brigades as the foundation, it has provided help to individuals to raise fish, has given impetus to substantial increase in the prefecture's water surfaces used for the raising of fish, to fish output, and to quantities sold in a change away from many years of slow development in the fishing industry and losses resulting from operations.

Nenjiang Prefecture has fairly abundant aquatic product resources, which have gradually found use as a result of readjustment of policies during the past few years. Longjiang County has 120,000 mu of water surfaces for the raising of fish, only one-third of which had formerly been used. By using state, collective, and individual production channels for development of the fishing industry last year, water surfaces used for the raising of fish increased from 40,000 mu to 67,000 mu and raising of fish by commune members in the county developed from zero. In Xibaitu Production Brigade in Baishan Commune, commune member Liu Fengcai [0491 7685 2088] was given a small bit of water in the brigade last spring, which he stocked with minnows. Before the onset of winter, each fish weighed about 7 liang and he harvested a total of slightly more than 200 jin of fish. The masses said with praise, "A small fishpond is a treasure. Costs are low and earnings are high; every household can do it." The Hongsheng Commune CCP Committee in Tailai County made fish raising a major project in its economic diversification work, putting it into effect brigade by brigade. Now nine of the 13 brigades in the commune are raising fish with remarkable results. Water surfaces being used to raise fish throughout the prefecture have grown to 410,000 mu, a 17.4 percent increase over the same period last year. This includes a prime water surface raising area of more than 3,000 mu, which has increased 10 fold over the same period last year. Fish raising sites have grown to number 388, a 40 percent increase over the same period last year. Fish raising by individuals is being done at 52 sites. Fishponds have been built on more than 4,600 mu, and last year output of sheatfish totaled more than 5,300 tons, a more than 48 percent increase over the previous year. More than 10 million fingerlings were produced, a 20.6 percent increase over the previous year. Value of fish marketed was 3.77 million yuan, a 46 percent increase over the previous year for a profit of 340,000 yuan.

In order to meet needs for development of the fishing industry, Nenjiang Prefecture administrative offices and the people's government of each county ran training classes in the planned training of fish raising technicians. Since last year, the prefecture and counties have run 15 technical training classes to train more than 400 technical personnel enrolees. Prefecture and county aquatic product units also sent technical cadres to give guidance on the fishing industry throughout the year to rural communes and brigades.

9432
CSO: 4007/413

WATER MANAGEMENT REPORTEDLY IMPROVES OUTPUT

Harbin HEILONGJIANG RIBAO in Chinese 21 Mar 82 p 2

[Article by Heping Irrigation Management Station, Qing'an County: "Old Irrigation District Makes New Contributions Through Scientific Management of Water"]

[Text] The province's Heping irrigation district is an old irrigation district with more than 40 years of development. The cultivated land area it serves covers 150,000 mu of which the area designed as wetlands amounts to 86,000 mu. Formerly scientific use of water was not practiced, so in 1978 almost 3,000 mu of wetlands had to delay the time when sowing was done for lack of water, and output decreased. Last year we instituted scientific use of water to assure proper irrigation of 73,000 mu of wetlands. Autumn brought a bumper harvest for an initial savoring of benefits from scientific water management.

Mid-May to Mid-June every year is the dry season in the irrigation district. In order to assure timely irrigation, we have renovated catch basin projects, and along drainage ditches we have selected places where the topography is favorable to build check gates to block drainage of water from upstream and send it downstream into ditches for use, and to drain returning water upward so it can irrigate as it comes back downward. In order to make full use of spring floods, in recent years the irrigation district has everywhere promoted early preparation of the soil, early release of water, early soaking of fields, and early sowing. Formerly the gates were opened and water released on 1 May each year, but last year the water was released on 20 April, soaking and sowing of the fields being done about 10 days ahead of time. Thus, full use was made of dry season runoff for reduction of the irrigation rate, and a saving of water was effected. Formerly a single discharge irrigated only 6,000 mu, but now it irrigates 10,000 mu. Early release of water, early soaking of fields, and early sowing also help raise soil temperature so that cumulative heat can beat cold damage. Formerly sowing was done once air temperature was steady at over 12°C, but now sowing is done when temperature is steady above 8°C. This comes 10 days earlier and provides an additional cumulative temperature of more than 100 degrees so that the full flowering of rice comes in early August before it can be interfered with by coldness. This reduces the empty glume rate and increases rice yields per unit of area.

Additionally the irrigation district has applied to production the irrigation system worked out through 7 years of experimentation, i.e. meager water for germination of sturdy seedlings, shallow water for tillering, and sunning of the fields for healthy stems. This method is known as "shallow-sunning-shallow," and it saves about one-third the water formerly used for large scale flood irrigation. Along w h the spread of "shallow-sunning-shallow" irrigation method, we promoted a method of stagnant water irrigation during the final stage of rice tillering, and flowing water irrigation after the late tillering stage, which also produced very good results. During the early stage when rice seedlings are small, the water does not flow and temperature increases faster from the sun's rays than would be the case were the water to run. Water and soil temperatures are thereby increased by an average 0.5 degrees or so. During the late stage of tillering, when rice seedling growth is vigorous and foliage has closed the rows, the rice leaves blocking out the sun's rays, water temperature in the fields is about 0.5 degrees lower than water in the irrigation ditches. This irrigation technique can, in the course of the entire period of rice development, produce 40 to 50 degrees more cululative temperature, which helps rice growth and development, advances ripening, and increases the per thousand grain weight. Following the practice of scientific water management in 1981, the actual field area irrigated was 73,000 mu, an increase of 35,000 mu over what it had been. Yields increased from the former somewhat more than 380 jin per mu to 550 jin per mu.

9432
CSO: 4007/412

METHODS TO INCREASE SOYBEAN YIELDS EXPLORED

Harbin HEILONGJIANG RIBAO in Chinese 21 Mar 82 p 2

[Article by Professor Wang Jinling [3769 6855 7117], Deputy Provincial Governor: "Talk About Techniques For Increasing Soybean Yields Per Unit of Area"]

[Text] Soybeans are rich in nutrition and have a high economic value as well. Everywhere in the world soybeans will henceforth be a red hot item with broad uses and for which demand will be greater than supply. In China, following increases in prices paid for soybeans peasants stood to make an economic profit and the state needed soybeans, so a trend toward expansion of the growing area took place. Though Heilongjiang Province is the major soybean growing area of the country, its soybean output last year amounted to only slightly more than 4 billion jin. Total output was not great and yields per unit of area were not high. They were far from satisfying domestic and foreign market needs. Consequently, while suitably expanding the soybean growing area, attention should be given to increasing soybean yields per unit of area for greater soybean output.

For many years soybean yields in Heilongjiang Province have fluctuated around an average 130 to 160 jin per mu. In the low yield year of 1976, yields were only 119 jin per mu, while in 1975 yields were as high as 196 jin per mu, yields differing greatly from one region to another. These differences show that potential for increase in average yields per unit of area is great. All that is needed is further adoption of workable agrotechniques plus an increase in the level of scientific farming, and increase in average soybean yields per unit of area in the province to more than 220 jin will be entirely attainable. By and large, increase in the province's soybean yields per unit of area requires attention to the following several crucial problems.

Soil fertility is a basic problem affecting high yields of all crops. Since soybeans are not as responsive as corn, wheat, and rice to topdressing of nitrogenous fertilizer, increase in soybean yields per unit of area requires special attention to the use of organic fertilizer to build up soil fertility to promote good development of root nodules so as to make the most of the role of root nodule bacteria in fixing nitrogen. The Wuyi Brigade of Xinhau Commune in Suihua County and some units in Bayan county provide very good examples. For a long time they have continued to use barnyard manure and straw ashes to build up soil fertility, and increases in soybean yields have been consequently remarkable. In addition to applying organic fertilizer to the soybean fields, phosphate fertilizer such as calcium super-phosphate was also provided to increase the soil's phosphate content. On lightly alkaline and white bentonite soil fields, they used quick acting phosophate fertilizer such as dihydrogen phosphate for better results.

Missing seedlings and broken stems with resulting uneveness in stands is one of the major reasons for low soybean yields in the province. The main reason soybean seedlings are missing is sloppy farming, low quality of sowing, and damage to seedlings when weeding and banking of soil is done. Therefore, before sowing begins it is necessary to plow, ridge, and otherwise prepare the soil, and when soil tempteature climbs to more than 10°C, machinery should be used for on-time early sowing to take advantage of soil moisture and strictly guarantee quality of sowing to get a full stand. Careful weeding for growth of sprouts should be vigorously promoted, hand hoeing done to loosen soil around emerging shoots and to eliminate sprouting weeds, seedlings being added where needed, and soil banked around plants. In addition the experience advocated by Nahe County of "early, late and close" whereby fields were sealed off and weeds eliminated before sowing was done should be promoted through the adaptation of a general method to local situations. Alternatively, a herbicide such as fuleling may be used in advance of sowing on seedling strips.

The soybean growing areas of the province substantially have rather fine local and matched varieties suited to local conditions. The problem is that frequently there is no sensible matching of varieties on the basis of local soil fertility conditions and levels of farming. Since most of the varieties presently being extended to cultivation need high fertility while the general run of production fields frequently are unable to meet their needs for fertility, in years of scant rainfall, in particular, soybeans do not grow sufficiently vigorously and their yield potential is not fully realized. Reasons why varieties are not matched to production conditions are numerous, but problems of understanding are very crucial, while problems with work practices naturally also exist. For example, seed units should not only actively breed varieties suited to dominant production conditions, but should also promote, in combination, both fine varieties and fine farming methods. In this way results would be somewhat better.

Great differences in soybean yields occur from one year to another. This is influenced mostly by quantity of rainfall and differences in crop patterns. If dry weather occurs during August when pods and beans are forming, pods drop off and the weight per hundred beans falls, causing greatest damage to soybean yields. Second most serious is dryness during the flowering period. In order to overcome damage from dryness during the flowering, pod formation and bean formation period, in addition to watering, overly close planting is also to be avoided. During the seedling stage, field furrows should be deeply loosened and overly large beans should not be selected for planting (those larger than 22 grams) nor should those varieties be selected that do not grow vigorously or require large quantities of fertilizer and water. As the ratio of soybean planting increases, improvements in fertility and water conditions and increase in density will tend to increase the seriousness of insects that hollow out the beans, of cysticercosis, and of gray speck disease. Expansion of the sunflower growing area may also advance the spread of sclerotinia rot. Therefore, in soybean growing areas the proportion of sunflowers should not be expanded; growing areas should be dispersed, and particular care should be taken in low temperature areas.

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CSO: 4007/412

PROVINCIAL NOTICE ISSUED ON ALL-OUT POTATO PRODUCTION

Harbin HEILONGJIANG RIBAO in Chinese 20 Apr 82 p 1

[Article: "Sufficient Growing of Potatoes According to Plan Required by Provincial Government Office Emergency Notice to All Prefectures. Provincial Commune Enterprises Bureau Requires All Commune and Brigade Enterprises To Help Implement Potato Growing Plans to Assure Raw Materials for Processing and Fulfillment of Tasks For Surrender to Higher Authority of Potato Products"]

[Text] The Provincial People's Government Office has issued an emergency notice requiring all prefectures to implement conscientiously potato growing plans.

Recently Provincial People's Government leadership comrades made a survey in Nenjiang Prefecture where they discovered that this year's potato growing plans had not been adequately implemented, the area planted continuing to decline. They required all jurisdictions to take action for earliest possible implementation at the grassroots of potato growing plans handed down by the provincial government. Major suburban production areas, and Nenjiang and Heihe prefecture potato base counties in particular, are not to reduce the growing area. There is to be continued carrying out of planned purchases, surrender of fixed quotas, and the handing down of assigned procurement quotas. All county commercial units are to sign production and marketing contracts with production teams on the basis of plans handed down by the state, and assigned procurement quotas are to be levied on production teams and households. The contract system will be used to dovetail collective and individual commune member production with state assigned procurement tasks. In every county, until such time as procurement quotas for potatoes and potato products have been fulfilled, production teams (including farms) may not sell potatoes in country fair trade or offer them for sale themselves. Counties that have fulfilled procurement quotas may market potatoes themselves or have commercial units help market them.

The notice required a good job of potato planting and of exchanges between surplus and shortage areas. Last year's potato output fell as a result of disasters, so this spring seed potatoes have been in very short supply. Commune members should be mobilized to eat fewer of them, and they may not be used as livestock feed. In addition, city and town residents should be mobilized to sell to local vegetable companies potatoes they have in storage in order to help production.

By way of implementing the aforestated emergency notice, the Provincial Commune and Brigade Enterprises Administration has required all levels of commune and brigade enterprise management units to actively cooperate with units concerned in taking in hand implementation of potato planting plans to assure sufficient raw materials for potato processing industries. Commune and brigade enterprises are to sign contracts for the supply of raw materials for processing with potato planting production teams, other teams, and households so that enterprises will be able to start work at once and maintain normal production. Commune and brigade enterprises are also to sign production and marketing contracts with procurement units to guarantee fulfillment of state quotas as well as to organize marketing of output in excess of quotas.

9432
CSO: 4007/413

LIVESTOCK BREEDING HOUSEHOLDS ESTABLISHED

Harbin HEILONGJIANG RIBAO in Chinese 17 Mar 82 p 1

[Article: "Nine Households Specializing in Breeding See Results Within a Year. Suihua Prefecture Formulates Ways of Supporting Specialized Households and Requirements for Specialized Households; Then Entire Prefecture Establishes a Group of New Specialized Households"]

[Text] Last year Suihua Prefecture established nine specialized households for livestock breeding, which have functioned very well during the year to play a supplementary role in the livestock breeding system dominated by the state and the collective. Recently units concerned in the prefecture summarized this experience and are in process of spreading it throughout the prefecture.

Last year Suihua Prefecture established nine specialized households for the breeding of livestock in individual communes and brigades in farming areas, pastoral areas, and semifarming semipastoral areas, permitting them to pursue the breeding of fine varieties of livestock as their principal occupation. This method offers four advantages: One is high labor productivity rate. One example was Wanbao Commune in Zhaozhou where the work formerly done by six specialists has now been contracted to two specialized households. They are not only responsible for the commune's breeding work, but concurrently are in charge of breeding tasks in Zhaozhou Town, at Shuangfa Commune, and in some communes and brigades of Zhaoyuan County. Second is the successful pregnancy rate for breeding done by these nine specialized households which has been very high, meeting national and provincial requirements. Third is a lightening of burdens on the state and the collective. Six of the nine specialized households have themselves raised 12 stud rams, and three households have themselves raised six stud boars for a saving to the state and the collective of a total of more than 17,000 yuan of expenses for purchase of stud livestock, fodder, breeding equipment and payment of wages. Fourth is the specialized households have increased their incomes. Last year the income of these nine specialized households totaled slightly more than 10,200 yuan, a more than 6,000 yuan increase over their real income for 1980. Seven of the households had earnings of more than 1,000 yuan.

Measures formulated by Suihua Prefecture for support of households specialized breeding and requirements on specialized households included county and commune livestock unit responsibility for providing active help to them in the purchase of stud rams and boars, frozen bull semen and horse semen, designation of land on which to grow livestock feed or providing livestock feed according to the number of head of livestock being fed by specialized households, and providing a necessary breeding ground. Requirements levied on specialized breeding households included fulfillment of breeding tasks handed down by higher authority, providing services to production teams with adherence to fee standards for specific services formulated by units concerned with no arbitrary increases. Now communes and brigades throughout the prefecture have established yet another group of new households specialized in breeding.

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CSO: 4007/413

BRIEFS

WHEAT SOWING WELL UNDERWAY--During the past several days the continuing fine weather has been turned to advantage everywhere in the province for the rush planting of wheat at a rate of 1.6 million mu per day. As of 9 April 15.56 million mu of wheat had been sown throughout the province. This amounted to more than half of the planned wheat growing area, and was 3.7 million mu more than during the same period last year. In the eastern part of the province spring waterlogging was serious this year. On all farms, teams actively rushed the sowing of wheat in icy conditions to win the initiative. In the western and northern regions, all units in wheat growing areas carefully leveled the soil and made the most of soil moisture conditions to hasten the pace of wheat in an effort to win high wheat yields. On 4-8 million mu in the province, the land was leveled and carefully harrowed in advance of sowing. Right now wheat sowing is at a peak in western and northern regions and the pace of sowing is faster than in former years. It is anticipated that by 10 April, more than 90 percent of sowing will be completed. Right now fields everywhere are again soaking wet. While rush sowing of hilly lands in wheat growing areas is underway, efforts are continuing to dissipate soil moisture through shallow turning of the soil and by breaking ridges between fields, with leveling of the land so that more waterlogged low-lying areas may be planted. Units directly subordinate to the privince have allocated seeds for late ripening wheat to farm teams where waterlogging is serious in preparation for late sowing. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 12 Apr 82 p 1] 9432

HEILONGJIANG DROUGHT--Songhuajiang Prefecture, Heilongjiang Province, is attending to antidrought work to ensure good growth of crop seedlings. Among the 4 million mu of farmlands which were hit by a serious droubht, 1.2 million mu have been irrigated. In May the prefecture's precipitation was 33 percent less than the corresponding period in a normal year. Since the beginning of June, its precipitation has decreased 87 percent. The average temperatures were 3 to 4 degrees higher. The prefecture has experienced 12 7-class strong winds, affecting 11 million mu of land. [SK181127 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 17 Jun 82]

HEILONGJIANG GRASS BORERS--Suihua County's 83 percent of farmland, 1.81 million mu, has been plagued by grass borers. [SK191150 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 18 Jun 82]

ZHAODONG GRASS BORERS--Since the beginning of June this year, Zhaodong County, Heilongjiang Province, has found grass borers in 25 communes. Some 500,000 mu of crops have been plagued by grass borers. Now the county-level responsible comrades, agricultural scientists and technicians are vigorously teaching and helping the peasants to control and eliminate grass borers. [SK230804 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 22 Jun 82]

CSO: 4007/455

TECHNIQUES FOR IMPROVING WHEAT PRODUCTION ON DRY, SLOPING GROUND

Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 2, 1982 p 31

[Article by the agricultural technical station, Xia Ye Commune, Jiyuan County, Henan Province: "A Measure To Increase Wheat Production on Dry and Sloping Ground"]

[Text] In some mountainous or hilly areas where there are no water conservancy projects available, use of dry land weirs built with clods and contour ridges on sloping ground for planting agricultural crops is a measure for increasing production requiring little capital investment and giving good results. For example, at Guandi Improved Variety Farm of Xiaye Commune, the dry land weirs are 1.5 chi [1/3 meter] high and 5 chi wide, capable of yielding 470 jin of wheat per mu, as compared to 355 jin per mu for regular fields, an increase of 32 percent. As for the ridging, on the 2.5 mu of sloping land where there was no way of retaining rainwater a ridge was built every 2.5 chi on the basis of the contour a drill barrow of wheat was sown on each weir, yielding a marked increase of 50 thousand spikelets, with each spikelets having 1-2 more kernels in it, yielding 393 jin per mu, compared with a yield per mu of 284 jin for fields on which dykes were not raised, an increase of 38 percent. These pieces of land on which weirs and ridges were built, though receiving only about 50 mm of rainfall on the average, did not lose any rainwater because they were able to retain it. In this way, what were originally "fields of three escapes" (loss of water, soil and fertilizer) were changed into "fields of three retentions" (retention of water, soil, and fertilizer). If this method were popularized for dry and sloping land in mountain areas, it would be an effective measure for promoting a change from achieving low production of wheat to intermediate production of wheat.

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CSO: 4007/353

WHEAT PROTECTION PHONE CONFERENCE HELD

HK090932 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 7 Jun 82

[Summary] "During the current wheat harvest in our province, fire accidents have been very serious. To resolutely prevent the outbreak of fire accidents during the wheat harvest, the Henan Provincial People's Government issued an extraordinarily urgent telegram on 5 June and held an urgent phone conference on the protection of wheat and the prevention of fire, which was attended by responsible comrades of all prefectures, municipalities and counties and leading members of the Wheat Protection and Fire Prevention Command. Vice Governor Cui Ldanghua and (Bai Jin), vice chairman of the Provincial Fire Prevention and Safety Committee and director of the Provincial Public Security Department, spoke at the conference."

To resolutely prevent the outbreak of fire accidents, the Provincial People's Government demanded: "Governments at all levels must regard the wheat harvest and fire prevention as a current important rural task. They must seriously implement the measures and regulations of the Provincial Fire Prevention and Safety Committee on doing well in wheat harvesting, fire prevention and safety." It also demanded: "It is necessary conduct an inspection of fire prevention in the wheat fields." Regarding those who violate the instructions of upper levels and continue to cause fire accidents to happen, it is essential to investigate and affix the responsibility of the principal leaders for the fire accidents. It is imperative to resolutely prohibit people from drying and threshing wheat on roads. No departments and individuals are allowed to run counter to the circular of the Provincial People's Government. Relevant counties and communes must quickly investigate the reason for fire accidents which have already occurred, investigate and affix the responsibility for the accidents and strictly deal with them separately according to each situation. We must resolutely strike blows at criminals who set fire to sabotage the wheat harvest.

CSO: 4007/454

BRIEFS

AGRICULTURAL FUNDS--Since the beginning of this year, finance departments in Henan Province have appropriated 16.87 million yuan to support agricultural production and have also helped poor counties and poor production teams develop diversification. Over the last few years, with their assistance, some 20 relatively poor counties have developed agricultural production and the income of their commune members has increased. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 3 Jun 82 HK]

SOIL IMPROVEMENT--Zhengzhou, 15 Jun (XINHUA)--The Institute of Soil and Fertilizer under the Henan Provincial Academy of Agricultural and Forestry Sciences has made major achievements in improving the soil of low-yield fields in the province since 1979. The province has over 38 million mu of low-yield fields in alkaline land, sandy land, low marshland and dry and hilly land. The area of alkaline land in Shangqiu Prefecture was 3.2 million mu, accounting for 33 percent of the total area of arable land. As a result of soil improvement and readjustment of both crops' structure and water conservancy projects, the area of alkaline land in this prefecture has been reduced by 1.8 million mu. [OW211335 Beijing XINHUA Domestic Service in Chinese 0210 GMT 15 Jun 82]

CSO: 4007/455

BRIEFS

TEA PROCUREMENT--Hubei Province had procured 71,158 dan of tea by 31 May, fulfilling 26.4 percent of the state quota for tea procurement and showing a rise of 4.6 percent compared with the same period last year. Of the total procurement, 27,641 dan of red tea was procured, fulfilling 51.2 percent of the state quota, and representing a rise of 1.2 percent compared with the same period last year. The provincial tea procurement departments at all levels adopted active measures, and increased the amount of grassroots procurement networks and workers to promote tea procurement. According to statistics, 10 counties have fulfilled more than 50 percent of the tea procurement quota and 17 counties have improved tea procurement. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 10 Jun 82 HK]

PREFECTURE GRAIN--The total output of summer grain and summer oil-bearing crops of Xiaogan Prefecture in Hubei Province this year exceeded the highest output in any previous years. The total output of summer grain reached some 850 million jin, 17 percent more than last year. The total output of summer oil-bearing crops was some 700,000 dan, 26 percent more than last year. By 18 June, the prefecture and procured some 180 million jin of summer grain, 93.6 percent of the state procurement quota; and had procured some 388,000 dan of oil-bearing crops, 78.9 percent more than the procurement quota. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 22 Jun 82 HK]

CSO: 4007/455

JUTE, AMBERI HEMP, RAMIE GLUT REPORTED

Changsha SHI CHANG TIAO JIE in Chinese 5 Apr 82 p 2

[Article: "Hunan Province Jute, Amberi Hemp, and Ramie Output and Marketing Forecast"]

[Text] This year Hunan Province's supply of jute, amberi hemp, and ramie is greater than demand, so all jurisdictions should pay attention to planting plans.

Last year the province had a bumper harvest of jute, amberi hemp, and ramie. On the basis of annual production statistics, anticipated procurement of ripe jute, and amberi hemp will be 650,000 dan (of which about 613,000 dan had been purchased as of the end of January). This plus the 400,000 dan in storage from last year makes a total of 690,000 dan. Ramie procurement will run to 310,000 dan (of which 301,000 dan had been procured as of the end of January), and this plus 60,000 dan remaining in storage from last year will mean a total of 370,000 dan. Anticipated sales by the province this year of ripe jute and amberi hemp are 460,000 dan, of which 380,000 dan is for use in making textiles. Jute and amberi hemp disposed of in the market amounts to 30,000 dan, and 50,000 dan is for export. Of the 167,000 dan of ramie marketed, 130,000 dan will be used for textiles, 30,000 dan will be disposed of in markets, and 7,000 dan will be exported. In addition to normal storage, the province has on hand 200,000 dan of jute and amberi hemp and 160,000 dan of ramie for which it can find no markets. Moreover, last year saw an increase in output of jute, amberi hemp and ramie in the country as a whole, so now the quantities in storage are fairly large and sales are slack. In order to help balance development of production and sale of jute, amberi hemp, and ramie, all jurisdictions should pay attention to planting plans. In a situation in which no apparent increase in textile use or exports of jute, amberi hemp, and ramie have taken place, Hunan Province's output of these three crops should be stabilized, i.e., the growing area for jute and amberi hemp should be stabilized at 150,000 mu, and the growing area for ramie should be stabilized at the present 220,000 mu with no blind expansion. In addition, quality should be improved, a good job being done in stripping and pickling. Supply and marketing units must strictly put into effect procurement standards and price policies; actively expand markets, and do a good job of storage.

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CSO: 4007/413

CARROT, STICK MEASURES ADOPTED FOR HOG RAISING

Yinchuan NINGXIA RIBAO in Chinese 7 Apr 82 p 3

[Article: "'Six Fixeds' To Assure Profit From Hog Raising"]

[Text] Profits from the raising of hogs last year by state farms in Hunan Province amounted to more than 4 million yuan, a 1.2 fold increase over 1981 for overfulfillment of state assigned procurement quotas and export quotas for live hogs. Their experience was practice of the "six fixeds."

The "six fixeds" are fixed quotas, fixed amounts of livestock feed, fixed survival, fixed costs, fixed remuneration, and fixed rewards and penalties.

The state farms stipulated care of a pig sty by a man and wife (a working couple) to raise somewhat more than 100 pigs, while at the same time farming 12 to 14 mu of green feed for them. Also required was an annual output of between 14,000 and 16,000 jin of live hogs and the removal from inventory of 120 fattened hogs. For each hog raised, one-tenth of a mu of land was provided for the growing of fodder, and for each jin increase in weight, three jin of feed was paid. For the hog survival rate it was required that each sow would annually produce 14 surviving shoats. The fattened hog survival rate was 95 percent and the sow survival rate was 97 percent. Wage remuneration was figured on the basis of weight increases for fattened hogs, a remuneration of from 0.08 to 0.10 yuan being paid for each jin increase in weight. This meant a general average per capita monthly wage of somewhat more than 60 yuan with maximum earnings of slightly more than 100 yuan and minimum earnings of slightly more than 40 yuan per month.

Following institution of the "six fixeds," worker sense of responsibility increased. In 1981 they suitably cut back on the amount of feed given hogs, the amount of feed per hog falling by 22.5 percent, while the number of hogs removed from inventory nd the number exported increased over 1980 by 8.7 and 4.6 percent respectively.

As a result of cutbacks in the amount of feed given the hogs, 200 feeding personnel were cut, the feed growing area was reduced by 12,000 mu, and circulating capital was reduced by 6 million yuan. They converted the land to the growing of 10,000 mu of sugarcane for an annual increase in earnings of 5 million yuan.

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CSO: 4007/412

AREA CORRECTS MISTAKEN IDEAS ON COMMUNES

HK120325 Changsha Hunan Provincial Service in Mandarin 2310 GMT 11 Jun 82

[Text] While studying the draft of the revised constitution, (Jinrong) District of Pingjiang County has paid attention to carrying out publicity for the masses in connection with reality. The district has also cited the basic principles of the draft to solve a number of new problems that cropped up in practical life.

(Jinrong) District is a mountainous border region. After the draft of the revised constitution had been made public, a few cadres and masses had muddled ideas regarding the provision for separation of government administration from commune management. They thought that this meant abolishing the people's communes and dissolving the collective economy. Problems of sharing out collective property and selling responsibility fields and mountains even occurred in places.

On discovering these problems, the district CCP Committee first held a meeting of commune party committee secretaries to unify their understanding. They also trained 600 backbone elements at all levels. Responsible comrades of the district and the communes then led groups to more than 600 production teams to openly promulgate the draft of the revised constitution to the masses. After 20 days of lectures and discussions, the cadres and masses deepened their understanding of the four basic principles, correctly grasped the basic contents of the draft of the revised constitution, overcame the muddled thinking of certain cadres and masses, and corrected the sinister wind of sharing out collective property. The district has further stabilized and perfected the production responsibility systems and consolidated the collective economy.

CSO: 4007/454

RADIO ON MANAGEMENT OF COLLECTIVE ORCHARDS

HK100849 Changsha Hunan Provincial Service in Mandarin 1000 GMT 8 Jun 82

[Notes by station reporter and correspondent: "The Problem of Nobody Caring for the Commune- and Brigade-Run Collective Farms and Orchards Should Be Solved Immediately"]

[Text] On our way to Wugang County to gather material, we noted that some commune- and brigade-run collective tea farms and tangerine orchards had been laid waste and some others had been trampled by livestock in a pitiable manner. Xingguang production brigade in Chengxi commune had a collective orchard in which 7,210 sweet seedless tangerine trees were grown. Since last winter the management of most of the tangerine trees have been equally divided among the households. Thus, some tangerine trees belonging to the collective have been transplanted by some commune members in their own private plots and some have been stolen. With the loss of more than 2,000 tangerine trees, the orchard has become a grazing ground for the cows. This is really distressing.

How has it come about that the commune- and brigade-run collective farms and orchards have been damaged in such a serious manner? As we understand it, this is chiefly because some commune and brigade cadres, in implementing the production responsibility system, have paid attention only to contracts for paddy fields. They have failed to conscientiously implement the system of responsibility for specialized jobs. During the busy season of spring sowing, all the labor force was concentrated on the responsibility fields with the result that the collective farms and orchards have been left uncared for or mismanaged. Moreover, a small number of commune members erroneously hold that assigning the households full responsibility for task completion is tantamount to dividing the fields and working alone and so have taken advantage of the opportunity to privately divide, forcibly the possession of or steal the collective fruit trees.

In order to manage well the collective orchards, in addition to helping the cadres at the commune, brigade and the levels to overcome the tendency of paying partial attention to the responsibility system, what is important is to conduct education among the commune members in adhering unswervingly to the path of socialist collectivization, public ownership of land and other basic means of production and adhering unswervingly to the system of production responsibility in agriculture. It has been stated very clearly in the "Summary of the Minutes of the National Rural Work Conference" that, being socialist public accumulation and the basis for the continued development of the collective economy, the commune- and brigade-run collective farms and orchards must be appropriately protected. This has been carried out well in many localities in the past and the results have been fairly good. For example, in early March this year Wugang County Deputy Magistrate Yuan Fengshan went down to Zhuanwan District to conduct investigation and study. He also sent 13 technical cadres to carry out experiments in Lizuo production brigade in Zhuanwan commune. They conducted socialist education among the cadres and commune members in line with the guidelines of the "Summary of the Minutes of the National Rural Work Conference" and regained, for collective management, the four farms and orchards that had been equally divided among the households. They also seriously dealt with the commune members who had taken advantage of the opportunity to privately divide, forcibly take possession of or steal the collective fruit trees. By signing 3-year contracts with 63 laborers who had a strong labor force in their households and who had special skills for the management of the 12 farms and orchards in the whole brigade, they speedily changed the situation where nobody cared for the collective farms and orchards. We can draw on these experiences.

We should grasp the current favorable opportunity to grow well the industrial crop, such as fruit trees and tea, in the collective farms and develop diversified undertakings in order to consolidate and develop the collective economy.

CSO: 4007/454

BRIEFS

AQUATIC PRODUCTS CONFERENCE--The Hunan provincial conference on aquatic products held by the Provincial People's Government concluded in Changsha today. The conference looked into and discussed the principle, policy and measures of this province on speeding up fish production. Attending were responsible comrades of all administrative commissioner's offices and all autonomous prefectural, municipal and county people's governments who are in charge of aquatic products, and leading comrades of relevant departments and bureaus at the provincial level, some 200 people altogether. Governor Sun Guozhi attended and spoke. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 12 Jun 82 HK]

PIG PROCUREMENT CONFERENCE--On 9 June the Hunan Provincial Commerce Department held a phone conference on the purchase and sale of pigs. The conference demanded that commerce departments at all levels do everything possible to develop pig production and arrange for ample market supplies. Departments must strengthen pig procurement and must not suspend pig procurement and lower grades and prices. They must do their best to satisfy the peasants' needs in selling pigs. They must arrange for ample supply of pork and increase the quantity of pork for cold storage. [HK141451 Changsha Hunan Provincial Service in Mandarin 2310 GMT 11 Jun 82 HK]

EARLY RICE FORUM--On 1 June, the Hunan Provincial Agricultural Committee held a forum of some leading comrades of the provincial agricultural department, the provincial agricultural institute and the provincial meteorological bureau and scientific and technological personnel to analyze the early rice growing situation and to look into the issue of tending early rice. The forum pointed out that due to the low technological level, many production teams have not grown early rice well. The forum held that it is necessary to tend early rice well and make good preparations against natural disasters. [Changsha Hunan Provincial Service in Mandarin 2310 GMT 3 Jun 82 HK]

CSO: 4007/455

RUNDOWN GIVEN FOR VARIOUS CROP CHARACTERISTICS

Nanjing XINHUA RIBAO in Chinese 17 Apr 82 p 2

[Article: "Summary of Wheat, Cotton and Oil-Bearing Crop Varieties Inspection and Approval as Meeting Specifications"]

[Text] On a previous occasion, briefing was provided on a first group of 10 paddy rice varieties examined and approved as meeting specifications by the Provincial Crop Varieties Examination and Approval Committee. Now, a brief account is provided on examination and approval of a first group of wheat, barley, and naked barley, cotton, sweet potatoes, soybeans, peanuts, rape, Chinese cabbage, and green manure.

Semi-winter wheat, "Ningmai No 6," was bred by the Provincial Academy of Agricultural Sciences. This variety tolerates fertilizer and resists lodging, shows strong tillering, has many spikes and numerous grains, is fairly resistant to cold, may be sown early, and has a fair potential for increased yields. However, ripening tends to be a bit late. It may be grown as an early or intermediate crop in places of intermediate or high fertility in the Huainan region.

Partial spring wheat, "Ningfeng," was bred by the Dafeng County Agricultural Institute. This variety ripens early and produces bumper yields, tolerates fertilizer and resists lodging, has large spikes and numerous grains, is fairly tolerant of cold, and is of fine quality. It is not resistant to wheat scab, however; its leaves wither during the late season, and ripening is poor. It may be planted in places of intermediate and high fertility along the Chang Jiang and in coastal areas.

Spring wheat variety, "Yangmai No 4" (i.e. 9 - 10 - 8 - 3) was bred by Yangzhou Prefecture Agricultural Institute. This variety has large spikes and heavy grains, is of good quality, and is only lightly affected by wheat scab. However, spikes tend to be few in number and tolerance of cold is fairly poor. It may be grown as an intermediate or late crop in Tongyang and Sunan prefectures in places where soil fertility is intermediate to high.

Intermediate maturing barley variety, "Yanfuaizaosan," was selectively bred by the Yancheng Prefecture Agricultural Institute. Plants of this variety are short and sturdy; it tolerates fertilizer and resists lodging, shows strong tillering, and has numerous spikes. However, it is prone to yellow leaf spot and netblotch. It also ripens poorly. It may be planted in Xuzhou, Huaiyin and Yancheng prefectures, and in areas of the province with only light disease infestation.

Intermediate ripening cotton variety "Xumian No 6" was bred by the Xuzhou Prefecture Agricultural Institute. Plant shapes of this variety are rather good; stems are sturdy; no early deterioration occurs; bolls are large; splitting of bolls occurs freely; color and luster of fibers is milky white; yields of both unginned and ginned cotton are higher than for "Xuzhou 142" and "Daizimian No 15," and physical properties are better than those of "Xuzhou 142." It may be grown in places where "Xuzhou 142" is grown.

Sweet potato variety "Huaishu No 3" (Huai 25) was bred by the Huaiyin Prefecture Agricultural Institute. This variety of sweet potato sprouts well, bears tubers early, has a drying rate as high as 35 percent, tolerates storage, tolerates dampness rather well, and is strongly resistant to alternaria leafspot. Carotene content is fairly high, and taste is good. But yields are just so so, and plants are prone to early deterioration during the late stage. It may be planted in the Huaibei area.

Soybean variety "Xudou No 3" was bred by the Xuzhou Prefecture Agricultural Institute. This variety is resistant to lodging, has a high fruiting rate, and ripens fairly early. It is poorly resistant to drought in the late stages, however. It may be rotationally cropped with wheat in the Huaibei region.

Peanut variety "Xuhua No 8" (i.e. 710 - 43) was bred by the Xuzhou Prefecture Agricultural Institute. This variety produces consistently high yields, is broadly adaptable, tolerates drought and resists waterlogging, flowers early, bears peanuts all at one time, and has numerous shells containing two peanuts. But it is not very resistant to lodging, and if protracted rainy weather is encountered during fruiting, rust infestations are serious and it is prone to early deterioration. It may be grown in sandy or black soil areas of moderate to high fertility where drainage conditions are good. It is not suitable for growing in baojiang soil [0545 3364 0964].

Rape variety "Ningyou No 7" was bred by the Economic Crop Institute of the Provincial Academy of Agricultural Sciences. This variety has good bumper yield qualities; its stems are hard; it develops well in spring, and oil content is high. Its shortcomings are little leaf age flexibility and poor resistance to cold, but it possesses strong ability to revive after freezing. It may be grown in the Huainan region.

Hybrid Chinese cabbage variety "Qingzazhongfeng" was introduced from Shandong by the Xuzhou Municipal Seed Station. This variety has high yields, broad adaptability, a high rate of usable cabbage, is fairly resistant to frost and mold, is tolerant of storage, and is rather good tasting. However, in drought years, it contracts virus diseases. It may be grown in places where fertility and water conditions are fairly good.

Green manure variety "Dajiajianshe wandou" peas was imported from France by the Provincial Botany Institute, the Soil Fertility Institute of the Academy of Agricultural Sciences, the Soil Fertility Department of the Farm and Forests Department, and the Xinyi County Green Manure Stock Varieties Farm. This variety branches strongly, has good root nodule development, plant nutrients are fairly high, seed toxicity is low, and it has fairly strong tolerance of cold, of dampness, of drought and of poor soil. It is also widely adaptable, but it ripens fairly late. It may be grown in the province.

Green manure "Xutiao No 8" Chinese trumpet creeper was bred by the Xuzhou Prefecture Agricultural Institute. This variety produces fairly high seed yields, ripens early, tolerates cold fairly well, tolerates late sowing, and is fairly adaptable. However, its resistance to leaf spot tends to be weak, and it does not branch strongly. It may be grown in the province.

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CSO: 4007/410

BRIEFS

PREFECTURE DIVERSIFIED ECONOMY--Jiangsu's Yangzhou Prefecture has to date assigned to grassroots units a target of more than 570 million yuan in terms of ourput value in diversified economy, topping last year by 30 percent. Eighty percent of this target is to be fulfilled according to contracts signed with grassroots units. During the first quarter the prefecture fulfilled 220 million yuan worth of output value in diversified economy, topping the same period last year by 19.5 percent. [OW270931 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 22 Jun 82]

WHEAT, BARLEY--The province has basically completed harvesting of wheat and barley. As of 27 May, over 900,000 mu of wheat and barley had been reaped. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 29 May 82 OW]

CSO: 4007/454

JIANGXI

PEASANTS DEVELOP HILLY LAND

OW100905 Beijing XINHUA Domestic Service in Chinese 0747 GMT 9 Jun 82

[Excerpts] Nanchang, 9 Jun (XINHUA)--XINHUA editor's note: The experience of Fuzhou [2329 1558] Prefecture, Jiangxi Province, in helping commune members to manage well hills designated for personal use [zhi liu shan 5261 3966 1472] and hills of designated responsibility [ze ren shan 6307 0117 1472] merits our attention. At present, the "three fixeds" in forestry work--stabilizing hill and forest rights, delimiting the scope of hills designated for personal use and defining the forestry production responsibility system--is being carried out intensively in various parts of the country; many commune members are now taking care of hills designated for personal use and hills of designated responsibility. This is an important new idea that came along with the afforestation policy and an effective measure for mobilizing the initiative of the broad masses of peasants in developing forestry with greater, faster, better and more economical results. However, mass initiative cannot be boosted simply by defining hills designated for personal use and hills of designated responsibility; there is still a great deal of work to be done. The "Decision on Certain Questions Concerning Forest Protection and Forestry Development" issued by the CCP Central Committee and the State Council pointed out: "Hills designated for personal use (or barren sandy beaches) shall be assigned to commune members to have trees planted and grass grown on them for a long period of time." To mobilize the peasants' initiative, the masses must first be convinced of the importance of this provision; and second, they must be helped in solving the many problems concerning seedlings and saplings, capital and techniques. In short, a great deal of careful work still has to be done. (End of editor's note)

XINHUA correspondents Wu Zheng and Wu Zhicheng report: How do we make commune members afforest the hills designated for personal use of mountains of designated responsibility and cover them with greenery as quickly as possible after suitable forests and barren hills are assigned or contracted to them?

Last year Fuzhou launched a prefecturewide "three fixed" forestry work campaign to stabilize hill and forest rights, delimit the scope of hills designated for personal use and define the forestry production responsibility system. Of the more than 5.09 million mu of suitable forests and barren hills currently being held by collectives, over 1.17 million mu were assigned to commune members as hills designated for personal use and hills of designated responsibility. It was originally thought that the masses would start to plant trees as soon as the barren hills were assigned to the households. But, as it turned out, actual practice was not as expected. Mass initiative for planting trees was not very high after the hills designated for personal use and hills of designated responsibility had been contracted to the masses. The fact was that the masses did not dare to build timber forests because they were afraid that the policy might change as timber forests take longer time to grow. Furthermore, tree planting and afforestation require substantial technical knowhow and some commune members could not do the job for lack of scientific knowledge in this area. Some commune members did not have sufficient saplings, funds and manpower needed for afforestation and faced tremendous difficulties.

To solve all these problems, the various localities in Fuzhou Prefecture have done some effective work in the following areas:

1. Publicity was given to party policies and ideological education was carried out effectively.

2. The peasants were given rights to their advantage and the masses were allowed more material benefits. Many communes and brigades in Fuzhou Prefecture specifically provided that the forests built in the hills designated for personal use and the crops grown there belong to the individuals who cultivated them.

3. The state gave support and the collectives offered help. After the barren hills were assigned to the households, the state must continue to help and should not stop there by doing nothing further.

As a result of the above mentioned measures, the mass initiative for afforestation and for covering the areas with greenery in Fuzhou Prefecture was mobilized. Many commune members have grown Chinese fir, bamboo, fruits, tea, mulberry and oil-tea camellia in the hills designated for personal use and hills of designated responsibility. According to incomplete statistics, more than 98,000 mu of fir forests and over 78,000 mu of economic forests have been developed in the entire prefecture. Of this, bamboo acreage is six times, tea acreage four times, and tangerine and orange acreage three times as large as compared with last year.

CSO: 4007/454

BRIEFS

FRESHWATER FISH--The Jiangxi provincial people's government called a provincial freshwater fishery meeting in Nanchang from 30 May to 6 June. Vice Governors Wang Zhaorong and Zhang Guozhen spoke at the meeting. The meeting noted that Jiangxi's freshwater fish catch in 1981 was 1.71 million dan, 13.6 percent more than in 1980 and an all-time high figure. The meeting called for striving for a 15-percent annual increase in order to bring the total annual output to 5-6 million dan by the end of the 1980's, a target set by the central authorities. [Nanchan Jiangxi Provincial Service in Mandarin 1100 GMT 7 Jun 82 OW]

COUNTY HOG PROCUREMENT--By the end of May Jiangxi's Duchang County had fulfilled 66.2 percent of the hog procurement plan and overfulfilled the annual plan for hog deliveries to the state. The county now still has more than 219,800 hogs in stock. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Jun 82 OW]

CSO: 4007/455

BRIEFS

COMBATS DROUGHT--Leading party and government comrades at all levels in Baicheng Prefecture, Jilin Province, have gone to the forefront of production to help commune members combat drought and protect seedlings. The prefecture has started up 11,000 motor-pumped wells to irrigate fields around the clock. Baicheng Prefecture has virtually not had any rainfall in over 50 days. About half of the prefecture's 9 million mu farmland are suffering from serious drought. Seedlings on 600,000 mu of cultivated fields have withered. All-out efforts are being made to salvage as many seedlings as possible. [SK210752 Changchun Jilin Provincial Service in Mandarin 2200 GMT 20 Jun 82]

WEATHER TREND--According to the Jilin Provincial Meteorological Observatory's forecast on 19 June, beginning in late June Jilin Province will experience more rainfall, and the temperatures will drop. The meteorological observatory urged all localities to make preparations for the forthcoming rainy season and take the opportune time to replant late fieldcrops. It also called for full preparations for torrential rains, floods and waterlogging that might occur in some localities because rainfall will be uneven in the flood season in 1982. [SK200830 Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Jun 82]

DROUGHT COMBATING--With the help of the state, the Jilin provinical people's government recently allocated 5.25 million yuan, 35,000 tons of chemical fertilizer, 1,030 tons of gasoline and 1,200 tons of diesel oil for combating drought and protecting seedlings in seriously-afflicted areas in the province. [SK170800 Changchun Jilin Provincial Service in Mandarin 1100 GMT 16 Jun 82]

JILIN DROUGHT EFFORT--Some 60 million mu of farmland, nearly half of Jilin Province's total, has been affected by drought since early June. Over 2 million people, 25,000 motor and animal driven carts and 20,000 motor-pumped wells are now working to combat drought. As of 18 June, the province had watered 2 million mu of fieldcrops. [SK201035 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 19 Jun 82]

CSO: 4007/455

BRIEFS

RURAL LIVING STANDARDS--The Liaoning Provincial Statistical Bureau recently conducted a survey of 500 households in Gai, Fuxin, Jianping and 15 other counties. Results of the survey show that the peasants' living standards have improved markedly in the past 3 years. The 1981 per capita net income of the commune member was 306.6 yuan, an increase of 65.68 percent over 1978. In 1981 the number of rooms per household increased to 3.35 from 2.91 in 1978. [SK121208 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 11 Jun 82]

PADDYFIELD IRRIGATION--In response to a request by Liaoning Province, the Jilin provincial CCP Committee and government released water from six reservoirs to help irrigate paddyfields in the lower reaches of the Liao He in Liaoning. The water flowed into Liaoning's Panshan County on 15 June. [SK181009 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 17 Jun 82]

CROPS DIE--Due to a serious drought, over 250,000 mu of crops in Jinxi County in Liaoning are withering and 20,000 mu of crops have died. The total amount of farmland in Jinxi County is about 830,000 mu. Each day the county dispatches over 100,000 people and utilizes 900 pumping wells to combat drought. Over 50,000 mu of crops are irrigated. [SK201059 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 19 Jun 82]

CSO: 4007/455

BRIEFS

CASH CROPS--Harqin Banner sowed 160,000 mu of cash crops including oil-bearing crops, tobacco leaves, beets and medicinal herbs in 1982, accounting for 17 percent of the Banner's cultivated land. This banner has also developed household sideline occupations. The number of hogs in stock and the number of poultry 155,000 and 360,000 respectively. This banner now has 260,700 animals. The commune- and brigade-run enterprises of this banner has earned 3.52 million yuan, an increase of 5 percent over the corresponding 1982 period. [SK240642 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jun 82]

INSECT PEST--Zhuozi County and Siziwang Banner, in Nei Monggol Autonomous Region, have taken emergency steps to exterminate grass borers. Because of high temperatures, great numbers of grass borers have emerged in Xilin Gol and Ulanqab, posing a serious threat to pasturelands and farmlands. The two leagues are making vigorous efforts to exterminate the grass borers. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 11 Jun 82 SK]

CSO: 4007/454

BRIEFS

PREFECTURES DROUGHT--Hanzhong and Ankang prefectural CCP committees and administrative offices are taking emergency measures to lead the masses in fighting the drought and protecting crop seedlings so that a good harvest in autumn can be guaranteed. Since May, the drought in these two prefectures have become more and more serious. Summer transplanting and sowing have thus been seriously affected. Some early-autumn seedlings are faced with the danger of withering. Of the 1.5 million mu of rice fields which have been transplanted, about half have been seriously afflicted and 300,000 mu of them are full of cracks due to the drought. In a number of places, there is not enough drinking water for people and for animals. In view of the constant deterioration of the drought situation, emergency meetings have been held in the two prefectures and some counties, and have called for setting off an upsurge to fight the drought and "rush plant and protect seedlings." More than 500 cadres in Hanzhong Prefecture, led by the leading cadres, have been sent to the frontline of fighting the drought, and 400,000 yuan of the local finances in the prefecture and various counties has been mobilized to be used as subsidiary funds for oil and electricity consumed in the fight. Cadres at various levels in Ankang Prefecture have also gone to the communes and brigades to lead the fight. Up to 17 June, more than 220,000 people have been thrown into the fight against the drought in Hanzhong Prefecture and more than 190,000 mu of rice have been transplanted. [Text] [HK210732 Xian Shaanxi Provincial Mandarin 0500 GMT 20 Jun 82]

CSO: 4007/455

COMMENTARY CALLS FOR COMBATTING DROUGHT

SK110950 Jinan Shandong Provincial Service in Mandarin 2300 GMT 10 Jun 82

[Station commentary: "Resolve to Combat Drought and Carry This Antidisaster Struggle Through to the End"]

[Excerpts] Our province has been plagued by serious drought for 3 successive years. It is unprecedented in history because it covered a large area, caused serious damage and lasted a long period. During the period between January and mid-May this year, our province only received 65 millimeters of rainfall, a decrease of 35 percent over the corresponding period of the previous normal years.

At present the drought situation is worsening. The continued high temperatures and dry and hot winds has resulted in a serious loss of soil moisture, posing a threat to the growth of wheat and spring seedlings. This serious drought has caused great difficulties to the province's industrial and agricultural production and the livelihood of the people. Encountering such serious drought, we have no choice but to resolve to combat drought, overcome difficulties and carry this antidisaster struggle through to the end.

At present our province's drought situation is worsening and it is a foregone conclusion that we will suffer a reduction in the output of summer grain crops. We must prepare for the worst situation and strive for the best. We must note that combatting drought and wresting a bumper harvest is not only a major economic task but also a major political task. It is the most important and urgent task among all our work. This is a matter concerning the current general situation. All party and government organs and all trades and professions must show concern for this general situation, serve it and arrange work around it. The party as a whole and all the people must unify thinking and make concerted efforts to combat drought.

The antidrought struggles in the past few years, especially the previous one, have fully shown that as long as we strengthen leadership, deeply mobilize and rely on the masses, and bring into full play all favorable factors we will overcome drought to a considerably great extent and will reduce losses. This spring, more than 90,000 cadres have gone to the countryside to work along with some 14 million laborers to combat drought. They have exerted great efforts in this regard. Thanks to the concerted efforts of the party, the government and army organs and civilians, our province has achieved noticeable success in the struggle to combat drought to ensure wheat growth and spring sowing. At present we have completed sowing of 46 million mu of spring seedlings in a timely manner in the province and the growing situation of these seedlings is very good. This struggle fully reflects the momentum of the party policies and the effectiveness of the responsibility system in agricultural production.

We must earnestly sum up the experiences gained in the previous stage of antidrought struggle, further strengthen our confidence and determination in overcoming drought, advance in the crest of victory and persist in carrying this antidrought and antidisaster struggle through to the end.

CSO: 4007/454

EARLY START REPORTED FOR COTTON PLANTING

Jinan DAZHONG RIBAO in Chinese 17 Apr 82 p 1

[Article: "Liaocheng Prefecture Farm Technicians Go Into the Frontlines of Spring Planting. Convey Scientific Cotton-Growing Techniques to Myriad Households, and to Farms and Fields"]

[Text] Liaocheng Prefecture has organized 1,200 farm technicians to go into the frontlines of spring planting to give guidance on the scientific growing of cotton in order to lay a foundation for winning a bumper cotton harvest this year.

As soon as cotton planting preparations began this year, all levels of the party organization in Liaocheng Prefecture transferred somewhat more than 1,100 scientific and technical personnel to the countryside to launch a campaign of "conveying techniques to households." Together with cadres sent to the countryside to inspect and direct spring plowing and production, they were able to go into cotton area communes and brigades to teach cotton growing techniques to cotton peasants. They explained everything step by step from how to level cotton fields, create soil moisture, and apply fertilizer to how to soak seeds to stimulate germination and use of furadantin and 39 for mixing with seeds; and from how to master the time for sowing to cotton planting density and spacing of rows and individual plants. More than 950,000 people heard their explanations. Scientific and technical personnel from Guan and Linqing counties also wrote technical articles titled, "Cotton Sowing From A to Z," "Farming Technique Model for Cotton Yields of 150 to 200 Jin Per mu," and "100 Questions and Answers About Cotton Production Techniques," which were printed and given to cotton peasants for study and reference. In Shen County more than 130 scientific and technical personnel went into the fields where, as a result of on-site inspection they discovered that the soil and the air had warmed up more quickly than in former years and that soil moisture conditions were good; 5 April was close to the right time for sowing. They suggested to the County CCP Committee the mobilization of the masses to get ready at once for planting. Beginning on 8 April, all communes and brigades throughout the county began sowing and planting one after another, just about 1 week ahead of the originally planned sowing time.

In order that the scientific and technical personnel might play a further role, the Liaocheng Prefecture CCP Committee and government administrative offices required county, commune and production brigade cadres to do the following: Prompt study of any reasonable suggestions made to scientific and technical personnel with positive adoption of all that fit local realities. Advanced cotton farming techniques put forward by scientific and technical personnel should be everywhere promoted through active organization of forces. Thus not only would confidence in scientific and personnel to do a good job of cotton planting techniques be strengthened, but the enthusiasm of the broad masses of cotton peasants for the scientific growing of cotton would be also aroused to assure smooth performance of spring sowing and production. Comparison of this year's spring sowing with that of former years shows six changes. One was destruction of the "arbitrarily uniform" regulation of many years standing that the cotton sowing season should always begin in mid-April. Acting on the basis of local soil and air temperatures, soil moisture conditions, and soil pH, each commune selected the right time for sowing. Second the cottonfield area in which soil moisture was created was increased 30 percent over last year. Third was scientific application of fertilizer, improvement being made in the sensible application of fertilizer. Average applications per mu of cottonfields were increased over last year by 0.5 cubic meters of organic fertilizer, 10 jin of phosphate fertilizer, 5 jin of standard chemical fertilizer, and 20 jin of seed cake fertilizer. Fourth was new development of farming techniques for saline-alkaline soil and for silted low-lying soil where seedlings grow and develop with difficulty. The entire prefecture practiced the growing of seedlings in pots containing nutriments and then transplanting them, and "ditching to avoid alkalinity planting methods" for an increase over last year of 1.5 and 2.3 fold respectively. Fifth was a more than one fold increase over last year in the area planted to "Lumian No 1" stock variety and to first and second generation seeds. Sixth was scientific soaking of seeds to force germination and improved use of furandantin and 39 chemical mixing of seeds. Right now the broad masses of cotton peasants are working hard at rush planting. As of 11 April, the daily sowing rate for the prefecture as a whole was more than 240,000 mu and it is anticipated that by the end of April the 4 million mu sowing task will have been completed.

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CSO: 4007/410

SHANDONG

BENEFITS OF GROWING CERTAIN FIBER PLANT DETAILED

Jinan DAZHONG RIBAO in Chinese 10 Apr 82 p 3

[Article by Provincial Science Commission Office: "Pay Attention to Development and Use of Bluish Dogbane"]

[Text] Bluish dogbane [apocynum venetum] also known as zeqima [3419 3344 7802] and chakezi [5420 2644 1311], is a member of the zhutao [4554 2711] family, and is a perennial, herbaceous, wild plant, plants growing between 1 and 4 meters tall, and roots going down to 2 to 3 meters. Because of its deep roots and profuse leaves, and its ability to withstand saline and alkaline soil and windblown sand, it can live for more than 20 years. It is found largely in places in China where the soil is saline-alkaline, where there are sandy wastelands, and where it is frigid. Coastal regions in the lower reaches of the Huang He also have tracts of wild-growing bluish dogbane. Near the military horse farm on Gu Island alone, there are several tens of thousands of mu of it.

Every part of bluish dogbane is valuable and has many uses as follows:

(1) Many medicinal materials can be derived from it. Bluish dogbane's leaves contain quercetin [2086 4122 4790], which can be used to make medicines that are remarkably effective in the treatment of high blood pressure, tracheitis, in making expectoration easy, in controlling asthma, in combating inflammation, and in combating allergies. It has been included in the 1977 national pharmacoepia.

The compound bluish dogbane tables produced by the Shanghai Pharmaceutical Plant are remarkably effective in the treatment of high blood pressure, and can get rid of headaches, dizziness, and tingling sensations in the limbs without side effects. The roots of bluish dogbane contain quercetin, strophanthin glycoside [3021 3029 2467 5363 1311 393A 0337], and acetylation derivative, four cardiac stimulant ingredients, which play a fine heart stimulant and diuretic role. They have a rather good curative effect on edema occasioned by nephritis, and they have few side effects. In addition, from the stems of bluish dogbane can be extracted cardiac glycosides and ingredients used in flavone type drugs.

(2) It can be used to make cigarettes, to make teas, and to make paper. The Chinese Herb Institute of the Chinese Academy of Medicine, the Northwest Plant Institute of the Chinese Academy of Sciences, and the Zhengzhou Tobacco Industry Institute of the Ministry of Light Industry have worked together with some

tobacco plants to trial develop a bluish dogbane herb cigarette containing 30 percent bluish dogbane leaves. It both maintains the flavor of real cigarettes and reduces the nicotine content. It also has a definite curative effect on the chronic tracheitis caused by smoking. Additionally, it can save on tobacco leaf and lower costs. Peasants in the bluish dogbane producing areas of China have long been in the habit of drinking bluish dogbane tea, and such use is also recorded in ancient books. Long time drinking of such tea lowers blood pressure, lowers blood fat, reduces phlegm, stops coughing, calms the nerves, and stimulates the heart. Beijing's Daxing Bluish Dogbane Tea Plant has an annual output of about 3 million jin. The rapidly dissolving bluish dogbane (which is dissolved in hot water) developed by the Beijing Municipal Food Industry Institute has been evaluated by medical units as a rather good drink for the prevention of illness and making the body healthy. It will soon be marketed. The bark fibers of bluish dogbane are a fine raw material for making paper. The pitch remaining after the bark has been removed can be used as a filler in making paper.

(3) It may be used as a high quality textile raw material. The bark fibers in the stems of bluish dogbane are finer than in [one character illegible] hemp, and the absolute strength of individual fibers is five to six times that of cotton, but the percentage elongation is small, being only about 3 percent. Fiber content is higher than for most hemp, and it is known in Shanghai textile circles as the "king of wild growing fibers." Units concerned in Shanghai have used bluish dogbane in combination with cotton, wool, and silk to trial manufacture more than 10 different kinds of textiles magnificent in color and both tough and soft at a 30 to 50 percent saving in cotton, wool, or silk raw materials.

Bluish dogbane is strongly resistant and is able to grow in strongly alkaline-saline and arid places with low temperatures and windblown sand. Planned transplantation and domestication would permit both development of infertile soil for use, rapid greening of areas, sheltering against wind and stabilization of sand, and improvement of soil and there would be no competition with grain and cotton for land. Full development of this resource for use can help development of commune and brigade enterprises and will enliven city and country markets.

A broad survey was made of bluish dogbane resources in the province during the early 1950's. However, since historical conditions at that time were limited, no development for use was done. With the passage of time, great changes have taken place in the status of resources in this regard in Hebei Province. Consequently, specialists concerned, professors, and researchers have made the following recommendations about bluish dogbane in Hebei Province: 1) First, an inventory of resources. They have recommended that the Provincial Agricultural Resources Survey Office make a bluish dogbane resources survey a part of plan, and after the inventory has been done that they be protected, growing increased, and resources developed. 2) Active promotion to application of existing scientific and technical results. They proposed that units concerned organize research personnel for the purpose of mastering the techniques of using bluish dogbane to make cigarettes and teas, and to extract drugs, place emphasis on experiments, trial manufacture, and production, and launch further research on multiple uses for bluish dogbane; 3) Organizing an attack on key problems.

Hebei Province is rather well endowed with scientific and educational forces on Chinese medicine and Chinese herbs, and many of the experts, teachers, and researchers who have been for many years engaged in research on multiple uses for bluish dogbane would like to come to Hebei Province to participate in this work. It is proposed that units concerned propose key problems that should be attacked and organize a cooperative effort to attack them.

9432
CSO: 4007/409

EXPANSION OF AQUATIC PRODUCTS BREEDING REPORTED

Jinan DAZHONG RIBAO in Chinese 10 Apr 82 p 3

[Article: Actively Launch Aquatic Products Research Around Readjustment of the Fishing Industry. During Last 3 Years Shandong Province Has Had More Than 120 Individual Successes in Ocean and Fresh Water Breeding. Provincial Aquatic Products Science and Technology Work Conference Emphasizes Need To Do an Effective Job of Technical Promotion To Advance Great Development of the Fishing Industry"]

[Text] Shandong Province's aquatic products research units have won heartening achievements in actively launching research centering around readjustment of the fishing industry. Incomplete statistics show that during the past 3 years the province has scored research successes on more than 120 items, 46 of which have received citations by national units concerned and by the provincial government, and 4 of which have met advanced national standards.

In accordance with national aquatic products programs, both the Provincial CCP Committee and the provincial government have decided to undertake reorganization of the structure and distribution of the fishing industry, instituting "primary emphasis on nurture, a combination of nurture and catching, and economic diversification." In order to meet this need and bring about coordinated development of research, the economy and society, all aquatic products research units throughout the province have rapidly shifted the focus of their work to the breeding of numerous varieties of aquatic products, to rational use of resources and preservation of freshness in aquatic products, and to processing. They have devoted attention to technical problems in production urgently in need of solution and have carried out a coordinated attack on key problems. In ocean breeding, for example, artificial raising of shrimp is a job requiring little investment that brings large benefits and shows results quickly, but owing to limitations on the numbers of larva available in the past, this production has never developed. As a result of coordinated attack on the problem by research units concerned, within only a year's time success was achieved in the factorization of artificial breeding of larvae as a result of which the shrimp raising area was expanded. As a result of successful experiments in Yantai Prefecture using new techniques of breeding shellfish in the midst of algae that increases results in ocean breeding, the entire prefecture is now breeding mussels and scallops in separate kelp breeding areas, and they are growing nicely. Increased earnings for this year have been preliminarily estimated at about 2 million yuan. In order that shrimping in Bohai not injure large numbers of young fish after 2 years of efforts the Provincial Ocean Aquatic Products Institute has trial developed a new kind of net that permits the catching of shrimp with little damage to young fish. It is called the "shrimp drag No 1" net, and it has become one of the items promoted for use by the state.

Simultaneous with vigorous development of research has been attention to the introduction into China of foreign technology on the part of aquatic research units. The niluoluo [phonetic] African fish, which is native to Africa, grows quickly, produces high yields, and is strongly adaptable. It is a fine fish variety recommended tothe world by the United Nations Food and Agriculture Organization. After the Provincial Fresh Water Aquatic Products Institute introduced it into Shandong Province, following breeding experiments in breeding alone and breeding with other fish yields of 1,800 jin and 700 jin respectively resulted. Now wide area breeding is underway in some places.

The recently convened Provincial Aquatic Products Science and Technology Work Conference reiterated that simultaneous with the continued launching of research centered on reorganization of the fishing industry, all jurisdictions are to earnestly do an effective job of technical promotion work to bring about great development of fishing industry production.

The conference noted that Shandong Province has a long coastline, numerous beaches, and quite a few bodies of water within the province that provide very good conditions for breeding of aquatic products. However, a look at fishing industry production at the present time shows that not only is the breeding area still insufficiently large, but yields per unit of area also differ greatly from one place to another. In the realm of freshwater breeding of fish in ponds, for example, never mind achieving the more than 300 jin per mu yields of Guting Commune in Yutai County, even if the somewhat more than 170 jin per mu yields of Linyi County were to be achieved, annual total output of freshwater fish for the province as a whole would increase by more than 80 percent. Consequently, a great potential exists to be tapped. The key problem today is failure of technical promotion work to keep pace. All jurisdictions should act in the decisive spirit of the Provincial CCP Committee and provincial government in intensifying agricultural science and technology work for a genuine strengthening of leadership of aquatic products science and technology work, to build and perfect organizations for the promotion of aquatic products technology, and to give attention to the building of a technology promotion corps so that advanced aquatic products techniques can be extended to application and play a full role in fishing industry production.

In addition to transmitting the spirit of pertinent central government and provincial conferences, summarizing work and assigning future tasks, this conference also exchanged the experiences and plans of some prefectures and units. These included this year's assumption of responsibility by Linyi County for fish breeding experiments handed down by the Aquatic Products Bureau for "10,000 mu of continuous ponds for yields of 200 jin per mu," for which manpower and material preparations are currently actively underway.

9432
CSO: 4007/409

BRIEFS

RESERVOIR REINFORCEMENT--Shandong Province's Laiwu County is speeding up the project of reinforcing and removing the hidden perils of eight large and medium-sized reservoirs. These eight reservoirs have a storage capacity of 360 million cubic meters--75 percent of the county's total. Prior to the flood period this year, a general flood-control headquarters has been established. The reinforcement of six reservoirs has been completed. [SK230759 Jinan Shandong Provincial Service in Mandarin 2300 GMT 22 Jun 82]

CSO: 4007/455

BRIEFS

SUMMER-RIPENING CROPS--Shanghai Municipality has reaped another bumper harvest of summer grain and rapeseed this year. Per-mu yield of wheat, barley and naked barley on Shanghai's 2.09 million mu can reach 460 jin, while total output can reach 960 million jin. Per-mu yield of rapeseed on the city's 940,000 mu can reach 286 jin, while total output can reach 2.68 million dan. [Shanghai City Service in Mandarin 2300 GMT 17 Jun 82 OW]

CSO: 4007/454

SICHUAN TESTS MEASURES FOR RURAL TRANSFORMATION

OW111342 Beijing XINHUA in English 1239 GMT 11 Jun 82

[Text] Chengdu, 11 June (XINHUA)--Sichuan Province is pioneering in testing a major change in rural administrative and economic structures, which observers regard as vital to China's rural development.

Townships, which were abolished with the establishment of the people's communes in 1958, have been restored in Guanghan, Qionglai and Xindu Counties singled out by the provincial authorities for the experiment. The township government has replaced the people's commune as the basic government unit in the countryside. Villages as a layer of administration have also been restored to replace the production brigade which operated under the commune.

The economic affairs of the former people's commune are administered by economic organizations assuming different names, by "agriculture-industry-commerce" combines as in the case of Guanghan County. But in experiments carried out in other parts of the country, the people's commune remains to be an economic organization.

The township government is elected at the township people's congress while the village head and his assistant, or the "village clerk," are chosen through popular election. The township communist party committee now supervises over the implementation of the party's policies, rather than getting involved in the day-to-day work of the grass-root units as the former commune party committee did.

Provincial officials told XINHUA that the transformation is necessary because the commune set-up has the disadvantage of over-concentration of power, although it once promoted agricultural production.

The people's communes, which were set up in 1958, combined government administration with economic affairs. In other words, the commune is the basic government unit in the countryside and, at the same time, an economic organization.

The experiment being made in Sichuan Province aims at separating government administration from management of economic affairs, so that peasants and their collectives may have the initiative in their own hands in developing production.

Guanghan County, now with a population of 490,000 and 30,666 hectares of farmland, underwent a series of social transformation in agricultural collectivization in the 1950's, which culminated in the establishment of the people's communes in 1958. In 1957, when peasants were in advanced agricultural cooperatives, their annual income from the collectives averaged 68 yuan and 254 kilograms of food grain per capita. The corresponding figures for 1976 were 74 yuan and 267.5 kilograms, showing little improvement over the past.

Guanghan officials attributed this to the ultra-left policies that had been pursued before the overthrow of the gang of four. But over-concentration of power in the commune system was partially responsible, they said.

While transforming the commune set-up, authorities of the three counties have helped peasants institute the job responsibility system, under which payment is given according to output.

With initiative in their own hands, people in the three counties have set up economic entities including agriculture-industry-commerce combines by breaking the barriers caused by administrative divisions of villages, townships or even counties, rural collectives have in the past 3 years started 1,600 industrial and other enterprises yielding an annual output value of 220 million yuan, 4.6 times the figure for 1977, before the experiment began.

Good results have been produced through the experiment, provincial authorities said. From 1956 to 1977, the total value of industrial and agricultural output increased at annual rates of 4.5 percent, 2.2 percent and 3.4 percent for the Guanghan, Qionglai and Xindu counties respectively. The corresponding figures for the period between 1978 and 1981 were 14 percent, 20.6 percent and 16.5 percent.

CSO: 4020/124

BRIEFS

EARTH TREMOR--Chengdu, 17 Jun (XINHUA)--An earthquake occurred in the northwestern part of Garze County, Sichuan Province, at 7:24 A.M. yesterday. The tremor was a magnitude 6 on the Richter scale. Initial reports show that houses in some production brigades collapsed, killing ten people and injuring five. Based on the observation of unusual phenomena, the state, provincial and prefectural seismological bureaus made short-term predictions prior to the quake. The Garze County office of seismology forcasted twice the possibility of an earthquake to the county government on 3 June and 5 June. As a result, timely precautionary measures were taken. Immediately after the earthquake, local seismologists rushed to the site for further observation. [Text] [OW171627 Beijing XINHUA in English 1618 GMT 17 Jun 82]

CSO: 4020/124

XINJIANG

BRIEFS

PRECAUTIONS AGAINST FLOOD--The Xinjiang regional's people's government held its 12th executive meeting on 10 June, presided over by Chairman Ismail Amat, to discuss precautions against flood. The meeting demanded that the whole region vigorously step up antiflood precautions and rely on the masses to overcome flood disasters and reap a bumper harvest. The meeting pointed out: The region's weather has been abnormal this year. There have been cold waves, hailstorms and strong winds, and flooding has occurred in some places since late May. This has caused serious losses in industrial, agricultural and livestock production and serious difficulties for the people's livelihood. There may be further floods in north and south Xinjiang this summer, followed by drought in places. The whole region must therefore attach great importance to this problem and do a good job in antiflood precautions. Antiflood and relief work should currently occupy an important place on government agenda. The regional government has also issued an urgent circular on stepping up antiflood work. The circular made the following points: 1) Enhance understanding of the harm done by floods; 2) get a good grasp of current disaster relief work, make proper arrangements for the masses' daily life, and also conduct education in the spirit of self-reliance; 3) inspect the state of antiflood precautions; 4) leaders at all levels must get a good grasp of this work, go to the frontline and teach the masses to display the spirit of self-reliance. "They must also step up ideological and political work and expose various rumors misleading the masses. It is necessary to strengthen security work and deal resolute blows at criminals and counterrevolutionaries who sabotage the work of fighting and relieving disaster." While acting against floods, it is also necessary to take precautions against drought. [Summary] [HK130551 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 12 Jun 82]

ANIMAL HUSBANDRY CIRCULAR--The Xinjiang animal husbandry department recently issued a circular demanding that all places do well in livestock production during the summer. It is estimated that the number of young livestock in the region this year will be more than 10 million head for the first time. However, since summer last year, the region has had dry weather. In particular, there was little rainfall this spring. The drought situation in the pastures is serious and grass has not grown well. This has made this year's livestock production in the region, all places must continue to strengthen leadership over livestock production, perfect the livestock production responsibility system, do well in preliminary distribution work, make full use of all water sources to irrigate pastures and to increase grass production and do well in preventing and treating livestock diseases. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 16 Jun 82 HK]

CSO: 4007/455

PREFECTURE ACTS SWIFTLY TO BOLSTER TEA PRODUCTION

HK150417 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 14 Jun 82

[Summary] "Having found out problems emerging in spring tea production, the Lincang Prefecture CCP Committee strengthened investigations in grassroots units, took appropriate measures in good time and thus promptly checked spring tea production from dropping."

In the beginning of the spring tea harvest season this year, two deputy secretaries of the Lincang Prefecture CCP Committee who were carrying out investigations found that the production responsibility system had not been well implemented in some communes, production brigades and primary tea processing plants; and that tea products, out of the control of the procurement plan, were flowing out from some places. This situation had made the tea production of the prefecture lower than the production in the same period last year. To cope with this declining trend, the prefectural CCP Committee carried out further investigation. A circular was issued later, urging counties and communes to strengthen leadership, improve the production responsibility system and solve problems in production and procurement. On the other hand, the prefectural CCP Committee also took appropriate measures to improve the procurement work, establishing tea inspection centers and strengthening market administration.

"With the adoption of the above measures, the production of spring tea in the prefecture has been rapidly improved. By 20 May, the prefecture had procured more than 3,100 dan in excess of the same period last year."

CSO: 4007/454

BRIEFS

PIG FEED MEETING--To speed up the popularization of compound pig feed and ensure the fulfillment of the quota for raising 1 million pigs this year in Yunnan Province, the Yunnan provincial animal husbandry bureau recently held a meeting in Kunming. This meeting was attended by the directors of the animal husbandry and agriculture bureaus of all prefectures, autonomous prefectures and municipalities and some counties. The meeting seriously examined the progress of the popularization of compound pig feed in all places, exchanged experiences, looked into some problems which should urgently be solved in the course of work and arranged for work in the second half of this year. From January to April, 92 counties throughout the province conducted experiments in and demonstration and popularization of compound pig feed, produced and supplied some 11.2 million jin of compound pig feed and fed some 113,000 pigs, some 70,000 pigs more than in the corresponding period last year. They also fed some 160,000 chickens with compound feed. The meeting urged the province to speed up the popularization of compound pig feed. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 12 Jun 82 HK]

RAINY SEASON STARTS--Since the beginning of June, it has rained throughout Yunnan Province. The rainy season has started in the major part of the province. According to statistics compiled by the provincial meteorological observatory on 11 June, except for an average rainfall of less than 30 mm in 13 counties, including Qiaojia, Jinning, Yiliang, Chengjiang, Jiangchuan, Tonghai, Yuanjiang, Lufeng, Shuangbai, Chuxiong, Mouding, Yongsheng and Binchuan, the average rainfall of the other places in the province was between 30 mm and 155 mm. The major part of the province has alleviated the drought situation. [HK161344 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 12 Jun 82]

RESERVOIR MAINTENANCE--From 1979 to the present, Yunnan Province has reinforced and repaired some 280 small-size No 1-type reservoirs and above, which accounts for over 79 percent of the reservoirs which should be reinforced and repaired. Prefectures and autonomous prefectures, including Yuxi, Chuxiong, Baoshan and Zhaotong, have basically completed the work of reinforcing and repairing their small-size No 1-type reservoirs. The province now has some 4,000 small-size No 1-type reservoirs, the majority of which were built in the late 1950's. At that time, stress was laid on high speed and large capacity, and the flood-control standards were low and their quality was poor. In the flood season every year, collapse accidents often occur. Since 1979, the province has gradually stepped up the management of the reservoirs. In each flood season from 1978 to 1981, the province appropriated special funds of some 50 million yuan to strengthen the maintenance of the reservoirs. [HK140907 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 10 Jun 82]

CSO: 4007/455

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TITLE: "Agricultural Field Subterranean Pipe Drainage Technology"

SOURCE: Beijing SHULI SHUIDIAN JISHU [WATER CONSERVATION AND HYDROELECTRIC POWER TECHNOLOGY] in Chinese No 5, 20 May 82 pp 42-49

ABSTRACT: Subterranean pipe drainage measures have been adopted in South and North China in recent years in the course of basic construction of fields and in Feb 79 and Aug 81 2 national conferences were called to discuss the special subject of underground drainage and irrigation. In China, experiments with subterranean drainage techniques actually started in the late 50's in Henan, Jiangsu, etc, and by the late 70's they were preliminarily extended to the lowland areas of Jiangsu and the lake plains of Zhejiang. It is estimated that about 5 million mu in the country have underground drainage devices which include subterranean pipes, hidden channels, etc. and of these, about 600 thousand mu have subterranean pipes. The use of subterranean pipes for drainage in the USA, the USSR, England, Czechoslovakia, Poland, Egypt, Japan, W. Germany, etc. is briefly introduced. The selection of proper caliber and construction material for the pipes, the drainage area for various sizes of pipes, the choice of filtering and insulating materials for the pipes, the depth and spacing of pipe installation, the horizontal and vertical arrangements of pipes, the management of subterranean drainage pipes, and the method of assessing the economic benefits and the investment return of a pipe drainage system are introduced in some detail. The "Drainage Manual" published by U.S. Bureau of Reclamation is cited to show the method of computing the load of pipes of different materials and structures.

6248
CSO: 4011/124

AUTHOR: YAO Zhen [1202 3791]

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TITLE: "Studies on the N-banding Karyotype of Cultivated and Wild Barley"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 2, 1982 pp 160-164

TEXT OF ENGLISH ABSTRACT: It was found that all seven pairs of chromosomes of cultivated and wild barley possess centromeric banding, that a few of the chromosomes have near centromeric banding, and that most of the chromosomes also have interstitial bands. But the number and position of the interstitial banding in the long or short arms of these chromosomes show some variation among the cultivated and wild barley. It was observed that the banding pattern of the "bottle-shaped" wild barley was similar to that of the six-rowed wild barley, and the banding pattern of the six-rowed wild barley was also near that of the cultivated barley. Therefore, cytological research revealed that cultivated barley is closely related to wild barley.

9717
CSO: 4011/144

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TITLE: "Preliminary Study on the Starch-filling Principle of Wheat"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 4, 1982 pp 6-11

ABSTRACT: The stage after heading and before harvest is very important regarding the weight of wheat grain which may vary a great deal depending upon the weather and the cultivation conditions. For the local breeds in the prefecture, the grain test weight (weight of 1000 grains) may vary from 30 g to 44 g. For the purpose of clarifying the grain formation, starch filling, and ripening processes of wheat, 30 plants of 6 breeds which developed heads and blooms on the same days were marked for observation to record the variation of the length, width, thickness, and volume of the grains, the variation of green weight, dry weight, and moisture content of the grains, the condition of accumulation of dry substance in the grain, and the speed of starch filling of the various breeds. It was observed that from blooming to ripe, about 34-38 days are required and these days may be divided into 3 stages: (1) Grain formation stage takes about 10-13 days following blooming and about 20 percent of the total dry weight is accumulated in this stage; (2) Starch filling stage takes 17-20 days, during which the average increase is about 1.7 g/day; (3) Grain ripening stage takes about 4-8 days and the weight gain is about 6 percent of total. These facts indicate that the period of 10-32 days after blooming, i.e. the starch filling stage is the most important for dry substance accumulation and measures of disease and pest control, drought and flood protection, etc. adopted during this stage can increase the weight of the grain effectively.

6248
CSO: 4011/127

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TITLE: "Some Characteristics of Temperature Variation in China in the Present Century"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 2, 1982 pp 198-208

TEXT OF ENGLISH ABSTRACT: The monthly mean temperature at 137 stations in China in the present century was classified into five grades, i.e. grades 1-5. Maps of grade distribution have been prepared for every month and year. According to the intensity of cold or warm areas, the monthly temperature grade distribution is classified into five types: cold (C), warm (W), sub-cold (Cw), sub-warm (Wc) and normal (N). For every month, mean grades are computed for seven regions: northeast China; north China, middle and lower Changjiang; south China; southwest China; northwest China; Xinjiang.

Based on the above materials statistical analysis of the occurrences and secular variation of the five types are made and associations among the regions are studied. The characteristics of temperature variation of the past 30 years are discussed.

[Continuation of QIXIANG XUEBAO No 2, 1982 pp 198-208]

These results are useful for understanding the climatic change in China and may serve as background for long-range forecasting.

AUTHOR: CHEN Li [7115 0500]

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TITLE: "Potential Evapotranspiration in Ningxia District"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 2, 1982 pp 219-228

TEXT OF ENGLISH ABSTRACT: Using Penman's formula, we computed the natural evaporation E_r of Ningxia districts, and studied its distribution. The ratio E_r/r (aridity index) is used as the index for agroclimatological division. The formula $E_r = K_t E_0$ is used to compute E_0 for spring, summer and autumn. The proportion coefficient ($j_t = f_c/E_0$) between E_0 and field evaporation f_c is used as a moisture index for major growth periods of wheat, paddy rice and millet. Based on this information, irrigation requirements are studied.

9717
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TITLE: "Study on Tissue Culture and Its Application for the Rapid Propagation of Ramie"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 1-8

TEXT OF ENGLISH ABSTRACT: Shoot formation was successfully differentiated from calli of the stem, leaf and hypocotyl of ramie (Boehmeria nivea L.) in the MS + 6 - BA 2-3 mg/l medium, and the axillary buds developed from these shoots could grow normally. When these shoots were transplanted to ½MS + NAA 0.2 mg/l medium, they regenerated into complete plantlets which could grow up normally in the field. We used the method of axillary buds for rapid propagation, and it could produce a greater number of tube plantlets free from morphological variation within a short

[Continuation of ZHONGGUO NONGYE KEXUE No 2, 1982 pp 1-8]

period. It could satisfactorily meet the need for the propagation of fine ramie varieties and the acceleration of breeding programs. In addition, the influence of different plant hormones on root growth was studied. In the ½MS + IAA 0.1 ppm + NAA 0.2 ppm medium, the roots could grow more prosperously and strongly. A whole series of transplanting techniques have been obtained.

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TITLE: "Cytological Observation of Pollen Development in the Main Male Sterile Types of Rice (Oryza sativa L.) Developed in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 9-14

TEXT OF ENGLISH ABSTRACT: The male sterile lines of rice developed in China can be divided into three types (i.e., Wild-aborted type, Honglian type and Yunnan No 1) according to the cytoplasm source of the male sterile lines and the relation between the fertility restoring lines and the maintainer lines.

Cytological observation revealed that the abortion of microspores in different types of male sterile lines occurred at different stages. The abortion of microspores of the Wild-aborted type took place at the uninucleate microspore stage, that of the Honglian type at the two-celled pollen stage and that of Yunnan No 1 type at the stage just before the mitosis of reproductive nucleus.

In this paper the cytological process of pollen abortion was described and the relation between the manifestation of male sterility and the nucleus-cytoplasm interaction in rice was discussed.

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TITLE: "Breeding by Anther Culture in Rice Varieties Improvement"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 15-19

TEXT OF ENGLISH ABSTRACT: Anther culture in rice improvement has made certain progress in China. A great number of anther-cultured rice varieties with various superior characteristics have been developed and started to be popularized in production. On the other hand, experiences have been systematically accumulated on the technique and working procedure of anther-culture breeding.

Most achievements gained from breeding by anther-culture are now used for stabilizing the segregation of characteristics in the early generation of intervarietal cross or hybrid rice, and are being used in remote hybridization and artificially induced mutation.

[Continuation of ZHONGGUO NONGYE KEXUE No 2, 1982 pp 15-19]

The anther culture method has not only bred new varieties of rice, but also synthesized a new, specific genotype that had never been found in local or exotic germ plasm and, hence, can perform an important function in the establishment of a new germ plasm bank.

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TITLE: "A Preliminary Study of the Green-vernalization in Wheat"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 20-23

TEXT OF ENGLISH ABSTRACT: Experimental work on the green-vernalization in wheat for the acceleration of generation advance of both weak-winter and winter varieties was done five times in 1975 and 1980. Some wheat varieties with different growing habits in winter or spring were selected as tested materials. The results showed that: 1. The normal heading date of winter varieties can be accelerated and the vegetative stage shortened by treatment with green-vernalization; 2. The optimum days for treatment varied with the type of winter or spring varieties; 3. The effect of green-vernalization is much better than that of seed-vernalization.

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TITLE: "Advances in the Studies of Wheat Cultivation in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 49-54

TEXT OF ENGLISH ABSTRACT: A lot of studies have been done on the rules for high yield and wheat cultural practices in getting massive bumper crops since the founding of the PRC. Results of these studies played an important role in guiding the wheat production and developing the cultural science. This paper covers the following aspects: (1) study on the stands structure in the fields; (2) study on the developing population structure; (3) study on the factors of yield components; (4) study on the rules of fertilizer and water requirements; (5) study on the index of control-promotion management; (6) study on the ways to obtain high yield; (7) study on the systems of cultural practices. The paper emphatically elaborates the main contents and present advances in the above studies with necessary evaluations. Ideas about future prospects, major subjects and methods in wheat cultivation studies are given in the conclusion.

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TITLE: "Experiments on the Antifeedant and Systemic Properties of Some Botanical Insecticides Against the Rice Yellow Stem Borer"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 2, 1982 pp 55-62

TEXT OF ENGLISH ABSTRACT: With an aim to search for botanical insecticides of good environmental quality for the control of rice insect pests, experiments have been carried out on 40 species of botanical insecticides against the rice yellow stem borer (*Scirpophaga incerulas*) in South China. Ethyl alcohol extracts of the seed kernels of two species of chinaberry (*Melia azedarach* and *M. toosendan*), acetone extracts of the leaves of *Rhododendron molle* and the root bark of *Tripterygium wilfordii* had very marked systemic action on the newly-hatched larvae and also some antifeedant effects. Extracts from the root bark of the bitter-tree (*Celastrus angulata*) had marked systemic properties, too.

The unique insecticidal properties of some species of Chinese plants, particularly Meliaceae, which are safe both to the environment and to the natural enemies of

[Continuation of ZHONGGUO NONGYE KEXUE No 2, 1982 pp 55-62]

insect pests, and their compatability with the agroecosystem emphasizes their potential value in the integrated control of rice insect pests.

9717
CSO: 4011/123

AUTHOR: None

ORG: None

TITLE: "Continue to Proceed With the Propaganda Eudcation of 'Two Unchanged' and 'Three Considerations'

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 5 May 82 pp 2-3

ABSTRACT: The "Outline of the National Rural Village Work Conference" is an extremely important document, in which the propaganda education of 2-unchanged and 3-considerations forms one of the essential contents. The propaganda education is to make the farmers understand that China's agriculture must stay on the socialist collectivism road; i.e. from the long term viewpoint, the public ownership and the production responsibility systems will be unchanged, and all three aspects of the nation, the collective, and the individual have to be taken into consideration and consideration of one at the expense of the other two is unacceptable. As it is clearly stated in that document, in the period between the winter of 1981 and the spring of 1982, centering on the job of establishing and perfecting the production responsibility system, all areas and regions should carry out this education in combination with problems of thoughts and practices. Since the conclusion of the conference, not a few cadres of the basic level have been unwilling, unable, and afraid of carrying out this job of propaganda eduction. The paper blames their own inadequate education for this problem; i.e. their leftist errors are insufficiently cleansed. The paper purports to help resolve this problem.

AUTHOR: None

ORG: Survey and Investigation Group, Legislative Committee, National People's Congress Standing Committee

TITLE: "Survey Report Concerning the Problem of Unity of People's Commune and the Political Organization"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 5 May 82 pp 6-9

ABSTRACT: The Survey and Investigation Group has organized many symposiums to study the problem of the people's commune system and to gather the opinions of the leaders of communes and brigades, the county, prefecture, and provincial committees, and some economists. The group has learned from these symposiums that most comrades of the provincial, municipal, prefecture, and county committee hold the opinion that the political and commune organizations should be separate while most of the comrades of the communes hold the opinion that the existing condition should be maintained. Essential problems in separating the two organizations are discussed. To separate the two is mainly to promote yield increase, to develop productivity, to establish socialist democracy, and to strengthen the exercise ofc leadership of the party. The separation will create a unified political power organization as well as a flexible and various economic organization. The administrative and the economic regionalization [divisions in geography] may either be the same or be different. The idea of separating the two appears to be supported by the Survey Group yet the paper also appears to refrain from positive endorsement beyond examining the advantages and ways and steps of carrying it out.

6248
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END

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23 July 1982

China Report

AGRICULTURE

No. 215

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CHINA REPORT

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I. GENERAL INFORMATION

FLOOD PREVENTION MEASURES EXAMINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 16 May 82 p 1

[Article: "Overcome Paralyzed Thinking and Take Flood Prevention Work Firmly in Hand. Water Conservancy and Electric Power Ministry Deputy Minister Li Boning [2621 0130 1380] Makes Statement to Reporters"]

[Text] Water Conservancy and Electric Power Ministry Deputy Minister Li Goning issued a statement to the newspaper's reporters about this year's flood prevention work.

Comrade Li Boning spoke first about mental mobilization work. He said that during the 1981 flood season the upper reaches of the Chang Jiang, the upper reaches of the Huang He, southern Shaanxi, southern Liaoning, Heilongjiang and the southeastern seacoast were beset with floods, and that under the leadership of the CCP Central Committee and the State Council great achievements were won in the struggle against floods. Numerous water conservancy and hydroelectric power projects played a very great role in flood prevention. Now South China has entered the flood season, and soon the flood season for North China will arrive. Of extreme concern to all is that in the lower reaches of the Huang He, the middle and lower reaches of the Chang Jiang, in the Huai He, the Hai He, the Songhua Jiang, the Liao He, and the Zhu Jiang for more than 10 to 20 years to large floods have occurred. This situation deserves a high degree of vigilance.

Inasmuch as the wide plains areas of China have not experienced large floods for many years, and particularly since the North China region has had little rain and drought conditions for 4 to 5 consecutive years, some cadres and masses have developed paralyzed thinking about waterlogging and flooding. Some even feel that so long as there is no drought, even if a flood as big as the 1963 one occurs, there is no need to be afraid. In places where large floods occurred last year, some people supposed that floods will not occur again this year. Historical records show that in many areas drought occurred first followed by waterlogging, or that there were consecutive years of flooding. Consequently such a mentality of fearing only drought but not fearing floods, and a mentality of trusting to luck that no large floods will occur this year are extremely lopsided and harmful. All levels of flood prevention, water conservancy and electric power units must wideranginly arouse the masses and do effective mental mobilization work under the leadership of local CCP committees and government, both to give attention to current work to fight drought and also to do a solid job of preparing to prevent floods. Only by being ever prepared can one be in an invincible position.

Comrade Li Boning continue by speaking about the several tasks currently requiring urgent attention.

1. Urgent Attention to inspection of Flood Prevention. Water conservancy projects such as water courses, dykes, culvert floodgates, and reservoirs, no matter whether flood inspected last year or no matter that there have been no floods and they have not been flood inspected for many years, must be inspected prior to the flood season for project safety, for project quality, and for ability to prevent floods. When deficiencies and problems are uncovered in the course of inspection, resolute action must be taken and conscientious handling done. When there are problems that genuinely cannot be readily handled before the flood season, provisional measures for quick protection and safety must be formulated in an effort to reduce damage in the event of a large flood. Emergency materials should be made ready before the flood season.

2. Firm Attention to the Removal of Obstacles That Block Water to Assure the Rivers Ability to Carry Flood Waters Away. In recent years some units have built structures that block the water, and have grown plants that block the water within watercourses or along their edges. They have built houses and industrial plants and have dumped ashes and refuse that block watercourses and impede movement of flood waters. Flood waters can be abruptly stopped and dikes breached to cause disaster. These lessons must be conscientiously absorbed. To this end, all levels of flood prevention units must consciently dispose of obstacles in the way of flood waters in water courses under the centralized leadership of CCP committees and government. They should adhere to a policy of "whoever has erected the obstacle shall remove the obstacle," and this work is to be completed before the flood season.

3. Preparatory Work on Arrangements for the Masses in Floodwater Storage, Flood Detention and Floodwater Movement Areas. In a spirit of a high degree of responsibility for the people, preparations for mass warning systems, dispersal, and movement of people living in floodwater storage, flood detention, and floodwater movement areas must be done to prevent loss of people's lives and property.

4. All Levels of Hydrology and Meteorology Units to Continue to Diligently Work at Metererological and Hydrological Monitoring and Forecasting. All levels of flood prevention units and posts and telegraphs units should strengthen cooperation to do a good job in assuring communications, the upward transmission of information from below, the transmission of orders promptly and accurately, acting as staff officers for all levels of flood prevention command units.

5. Need for Coordinated Warfare in the Struggle Against Floodwaters. All flood prevention work involving neighboring areas of fraternal units anywhere should be done with unity and cooperation, with safety first, with concern

for the overall situation, and with obedience to the unified control of superior authority to achieve the goal of common protection and mutual benefit. Those who refuse to cooperate, shift troubles to others, show no concern for the overall situation and will not submit to control must be investigated and responsibility fixed or have responsibility fixed according to law.

9432
CSO: 4007/439

USE OF TRADITIONAL ORGANIC FERTILIZER ENCOURAGED

Beijing RENMIN RIBAO in Chinese 6 May 82 p 1

[Short commentary: "Develop the Tradition of Organic Farming"]

[Text] In agriculture, each locality in our country has accumulated some experiences in production suitable to itself after a long practice. We should highly regard these traditional experiences, assimilate their essence, and energetically popularize them in order to serve agriculture today.

Some people believe that since we are now striving for agricultural modernization, the old production techniques are no longer suitable and should be discarded to make room for modern techniques. This is a one-sided view. It must be admitted that some traditional agrotechniques and farming methods are backward and no longer useful. However, we must also be aware that there are others which are still very useful and which should be inherited and developed. For example, in either the north or the south, in the mountainous areas as well as the plains, and in dry land as well as paddy fields, the time-honored method of making organic fertilizers through energy recycling in agriculture, and the method of organic relationships in agriculture and so forth should be not only highly regarded now but also of great value in the fairly distant future. The immediate benefits of organic farming, which consumes less energy because of the recycling, are lower production costs and higher efficiency. In the long run, it will keep the land constantly fresh and reduce pollution, thus contributing to human welfare. This matter is now continuing to attract attention even among those countries where agrotechnology is fairly advanced.

Unfortunately, some localities do not attach much importance to the use and development of traditional agrotechniques. Because of the gradual increase in the output of chemical fertilizers, they have slackened their efforts in accumulating organic fertilizer. Also, some localities have cast aside their production techniques, which have proved to be effective, while paying their undivided attention to learning from advanced foreign techniques. Practice has proved these practices to be harmful. These localities should learn from the methods used in the Suzhou areas.

Traditional agrotechniques are closely related to the spirit of hard struggle. If we want to restore the fine traditions in agriculture, we should display the spirit of hard struggle. We must follow the example of the laboring people before us in our country, in order to win bumper agricultural harvests through hard work and sweating. As long as we highly regard our fine traditions and at the same time assimilate the advanced techniques at home and abroad, our agricultural production will certainly make quicker progress.

9411
CSO: 4007/418

BRIEFS

TYPHOON REDUCED TO LOW PRESSURE SYSTEM--The Central Meteorological Observatory this afternoon released the following information: This year's typhoon No 5 was reduced to a low pressure system this afternoon. The center of the low pressure system was located over waters off eastern Guangdong, and winds near the center still ranged from wind force 6 to 7. The low pressure system is slowly moving northeasterly. As a result of the low pressure system, winds will range from wind force 6 to 7 in the northern area of the South China Sea and Guangdong's coastal areas from tonight to tomorrow. There will be heavy to torrential rains in eastern Guangdong and southern Fujian. [Text] [OW301435 Beijing Domestic Service in Mandarin 1200 GMT 30 Jun 82]

CSO: 4007/459

CONFERENCE NOTES POOR STATE OF FLOOD PREVENTION

Fuzhou FUJIAN RIBAO in Chinese 10 May 82 p 1

[Article: "Much Rain During This Year's Flood Season. Need For Early Precautions Against Floods. Provincial Flood Prevention Conference Proposes Action to Overcome Paralyzed Mentality For Implementation of Flood Prevention, and Strict Attention to Project Safety Inspections Before Flood Season for Early Elimination of Hidden Dangers"]

[Text] According to meteorology department forecasts, rain volume will be fairly great during this year's rainy season and there will be appreciable flooding in the Min Jiang basin. How can a good job of flood prevention be done this year? The provincial flood prevention work conference which concluded not long ago, proposed a program to overcome paralyzed mentality for diligent action primarily in prevention, the emphasis on prevention rather than a crash program, and for intensification of water conservancy project management to assure project safety so that reservoir projects will have no dam collapses and so that no breaks will occur in major dikes.

This year when the nine planets line up is an extraordinary year for astronomy, and calamitous weather may occur. During the past several years quite a few places in Fujian Province have not experienced much flooding, and numerous projects have not had to withstand the test of floods; this, the problem of hidden dangers in quality have not been eradicated. For small (2) reservoirs with a capacity of 100,000 to 1 million cubic meters, in particular, the dangers are rather serious. Reports from Jinjiang Prefecture say that 59 of the 335 reservoirs of this type in the prefecture have low flood prevention standards; quality is poor; and problems with hidden flaws have not been taken care of. A similar situation exists elsewhere. More than half of the province's more than 1,800 reservoirs have no designated persons in charge. Standards for flood prevention dikes and for sea walls to prevent floods and brake the tides are even lower. Numerous flood prevention dikes have been built on a sandy foundation, and leaks in the foundations of the dikes and in the dikes themselves is serious. Some units and individuals erroneously suppose that they can rest easy without concern because year after year flood prevention is called for but floodwaters never appear. They enclose river shallows to make farmland, build plants and construct houses, and build roads on dikes at will, thereby seriously reducing abilities to drain away flood waters. In addition, silting raises the height of river beds, and flood prevention standards become ever lower. In some places they dig away at the dike footings at will, remove stones from the dikes, and destroy dike works. Most small flood dike projects under control of communes and production brigades have had no one responsible for management for a long time. When small holes appear, no one repairs them. Delegates to the conference acknowledged that with the arrival of the flood season now, all jurisdictions should direct full attention to the aforestated problems, should genuinely strengthen leadership, should institute measures to guard against floods, and take preventive measures against possible trouble.

The conference emphasized the importance of reservoir and dike work safety as the focal point of anti-flood work, and the need to establish responsibility systems. In Shaowu and Songqi counties, the county people's government's assignment of responsibility for each and every reservoir and for dike sections to principal leadership cadres in the county, communes, and brigades is a workable method. A technical appraisal of every reservoir project should be made, and where problems with hidden flaws in quality exist, water storage should be limited. Storage of water should not be allowed in dangerous reservoirs. Where structures have been built in watercourses that impede the flow of water, anti-flood command units are responsible for clearing the obstacles. They should conscientiously study the problem and formulate plans in accordance with the principle of "whoever put up the obstacle is responsible for taking it down" to remove obstacles over a period of time to assure that flood water safely pass through reservoirs and major dike projects.

The conference noted that management of existing water conservancy projects must be improved, the focus of water conservancy work being solidly shifted to management. Reorganization of water conservancy management units should be done one by one over a period of time in the same way that enterprises were reorganized. Leadership teams should be augmented, labor discipline should be strengthened, responsibility systems should be established, regulatory systems should be improved, and a good job of economic accounting should be done.

9432
CSO: 4007/439

BUMPER WINTER WHEAT AND BARLEY HARVESTS REPORTED

Fuzhou FUJIAN RIBAO in Chinese 15 May 82 p 1

[Article: "Much Planting of Wheat and Barley Last Winter for Bumper Harvest This Spring. Wheat and Barley Total Output and Per Unit Yields Reach All-time Highs in Longhai, Fuqing, Shanyou, and Dongshan"]

[Text] Last year Longhai, Fuqing, Shanyou, and Dongshan counties made winter planting a major crop. They strengthened leadership, obtaining bumper harvests of barley and wheat this spring. In these four counties, both total output and yields per unit of area of wheat reached all-time highs. In Fuqing County, output totaled more than 10 million jin more than last year, an increase of 27 percent. Donghsan County's yields per unit of area increased by 106 jin over last year for a 57 percent increase.

These four counties have been in the habit of doing winter planting, but last year when they put into effect their barley and wheat planting plans many commune members had only a feeble conception of the country and there were problems about fulfillment of barley and wheat growing plans. Leaders in all of the counties focused on this situation, leading cadres into communes and brigades to conduct socialist indoctrination of the peasants to induce them to plant according to state plan. Longhai County adopted measures whereby leaders assigned sole responsibility for individual tracts, and county leadership comrades led cadres and farm technicians into communes and brigades to carry out ideological and political work. They repeatedly publicized the favorable conditions for the growing of winter barley and wheat, and very quickly implemented plans for the growing of 133,000 mu. In view of the existence in Fuqing County of a mentality of "growing wheat and barley is not worthwhile," leaders educated commune members in the advanced experiences of Yutang Brigade in the county, which last winter fertilized with more barnyard manure than usual producing yields of more than 420 jin per mu of wheat and 1,000 jin per mu of early paddy. This increased everybody's confidence about engaging in production of barley and wheat. Barley and wheat growing in the county increased from 170,000 mu to more 906,000 mu, exceeding plan by more than 6,800 mu. Dongshan County instituted its barley and wheat growing plans in every peasant household, and also organized the signing of planting agreements between individual peasant households and production teams, thereby smoothly fulfilling planting quotas handed down by higher authority.

Scientific growing of wheat and barley to increase yields per unit of area was yet another major reason for these four counties bumper barley and wheat harvests this year. Longhai County and Shanyou County promoted the wide area growing of "Furong 16 (or 17)," and Fuqing County's seed company bought and allocated Jin line superior wheat varieties for the sowing of 63 percent of its area. In addition, the county planted Zaoshu No 3 barley, the area of the county planted to fine varieties totaling 85 percent. Longhai and Donghsan counties changed from their former sowing method of "narrow plots with wide and shallow furrows" and promoted the advanced technique of "wide plots with narrow and deep furrows". This not only increased the soil utilization rate, but also lowered the ground water table and avoided disintegration of roots and premature plant deterioration during the late stage. Fuqing County also promoted Jiangjing Commune's experiences in obtaining bumper harvests through the mixing of nitrogenous, phosphate and potash fertilizers in a change from its former habit of overfertilization with nitrogeous fertilizer. This made the barley and wheat stems sturdy, the heads large, and the grains numerous. In addition, ever since the lunar new year both temperatures and quantity of rainfall favored crop growth. As a result, harvest of barley and wheat this year have been particularly bumper. Longhai County's yields reached 320 jin per mu, 50 jin more than last year. At Jiaomei Commune in that county, total output of barley and wheat this year broke 10 million jin for the first time in a 23 percent increase over last year. Shanyou County's yields also reached 320 jin per mu, 30 jin more than last year. All smiles, commune members said, "This year harvesting barley and wheat was like cutting rice; truly such a bumper harvest year has never been seen." However, there were also some commune members who had not grown barley and wheat who said with a sigh, "Had we known that this year's harvest would be this good, we would have listened to what the cadres said in the first place."

9432
CSO: 4007/439

MEETING HELD ON EXPERIENCES IN FORESTRY

SK240331 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 23 Jun 82

[Text] The provincial CCP Committee and government held an on-the-spot afforestation meeting in Jingchuan County from 9 to 16 June to introduce the county's experiences in forestry development and discuss ways to accelerate the province's forestry development. Through visits, the participants felt that Jingchuan County had made a heartening start and had set an example in changing the vicious cycle of agricultural production into a good one by attending to agricultural water conservancy and water and soil conservation to improve vegetation instead of merely to water conservancy. At present, the county has basically planted trees along roads and rivers and around houses and villages, built in fledgling form shelterbelts around farmlands, built protective belts along enbankments, scored initial achievements in harnessing small rivers and attained self-sufficiency in sapling supplies. The participants were deeply impressed by the county's achievements in improving the economic results in forestry production, by its spirit of self-reliance and hard work and by its practice of having leaders personally join in tree planting. They thought that Jingchuan County's experiences in afforestation were worth learning from. Having a goal to fight for, they were determined to successfully learn from, apply and publicize the experiences enabling them to achieve results everywhere in the province.

In addition to studying the county's experiences in forestry development, the meeting participants summed up the province's spring afforestation work. They held: Although the province overfulfilled by 14.3 percent its annual afforestation plan, it has done a poor job in sapling nursing and forest protection, which lags behind forestry development. Besides, the province has failed to pay sufficient attention to forestry scientific research and grass planting.

The meeting stressed: Tree and grass planting is a strategic task. Leading cadres should be promoters of turning their sole attention to grain production into dual attention to grain production and a diversified economy and sole attention to water conservancy into dual attention to water and soil conservation and water conservancy to improve vegetation, so as to accelerate afforestation and strive to expel drought from our province.

CSO: 4007/459

GANSU

STRENGTHENING OF WINTER WHEAT MANAGEMENT URGED

Lanzhou GANSU RIBAO in Chinese 10 Apr 82 p 1

[Article: "Seize the Opportune Time to Strengthen Winter Wheat Management"]

[Text] Recently, in order to do a good job of reporting on the question of winter wheat production in our province this year, this reporter interviewed responsible comrades of the provincial agricultural department. They said: We are now seizing the opportune time to strengthen winter wheatfield management so as, by every possible means, to wrest a bumper harvest of winter wheat this year.

Question: What is the situation with regard to winter wheat production this year?

Answer: This year our province has a total of nearly 11 million mu planted in winter wheat, or an expansion of more than 1 million over last year's acreage. If we add to this the other winter grains in addition to wheat and rice, the entire acreage of overwintering grain crops is 12 million mu. Due to implementation of the production responsibility system, the enthusiasm of the cadres and masses was aroused, last year's soil moisture was increased, preparations for plowing and sowing were done in a relatively solid manner, the sowing was fairly good, and seedlings have emerged all over the fields. Since the beginning of spring, rain or snow has fallen continuously in eastern and southern Gansu, and the amount of water contained in the plowed layer of wheatfields for the most part is about 20 percent. This good situation in soil moisture has rarely been obtained in the past several years. At present, the winter wheat has already turned green, most of the sprouts are in good condition, and in many places the young wheat plants are growing healthily and strongly. For example, there are the results of a general survey of the over 858,000 mu of young winter wheat seedlings sown this year in Wudu Prefecture: first-category seedlings accounted for 40 percent, second-category 44 percent and third-category 16 percent. Compared with the corresponding period of last year, the acreage of third-category seedlings was reduced by 20 percent.

Question: What problems are there in this year's winter wheat production?

Answer: From our present understanding of the situation, the several main problems existing in this year's winter wheat production are as follows: First, in some places in eastern Gansu and west of the [Wei] River, from the first part of October to the first part of November last year temperatures tended to be low as if winter had come 7 to 10 days earlier than normal, which caused the winter wheat to have insufficiently warm temperatures before winter actually began. The growing period was shortened, particularly for some rotation-crop wheat that had been sown late when planting had been expanded, so that everywhere the growth of the crop was slow, there was little tillering and secondary roots, and the wheat seedlings grew fairly weakly. According to an investigation made by the Agricultural Department of Qingyang Prefecture, the primary and rotational wheat timely sown in the middle of September on the average had two to three tillers before winter, about three less than in previous years; the wheat seedlings planted late, at the end of September or afterward, both primary and secondary, were thin and weak with very few tillers and secondary roots, and some even had none. Second, in areas of southern Gansu wheat rust, and in some areas wheat aphid, leafhoppers and planthoppers, occurred in succession and harmed the crop. According to an investigation made by the Agricultural Department of Wenxian County, winter wheat rust has already begun to spread: On 10,000 mu, the general proportion of highly affected strains has reached 40 percent--in specific places 100 percent of the wheat has caught the disease--and on the average 25 percent of the crop has been affected to a serious degree. It is estimated that in the first part of May the disease will have spread to the Wei River basin. By the middle and last parts of May, it will have spread to eastern Gansu and the central areas, and this should draw our attention to a high degree. Third, in some places, because there was much rainwater the soil moisture content is high, so that in the wheatfields weeds have multiplied and spread, competing with the wheat seedlings for water and fertilizer, which is extremely detrimental to the healthy and sturdy growth of winter wheat. Fourth, in some places, because last autumn was excessively overcast and rainy, the accumulation and shipment of fertilizer was adversely affected, and there was insufficient base fertilizer in the wheatfields, and in a small number of wheatfields the seeds were even planted during rain, so that the strengthening of field management and other measures is urgently needed in order to promote the healthy and sturdy growth of wheat seedlings. Moreover, looking at the situation in our province over the years, there is a big threat to wheat growth posed by freeze damage from a late frost, and we should watch out for this closely.

Question: What measures must be taken now to do a good job in wheatfield management?

Answer: At present, winter wheat in the plains of eastern and southern Gansu has already entered the jointing stage, and winter wheat in the mountain and plateau areas as well as the large acreage in the central areas and the areas west of the Wei River is now in the greening and sprouting stage. All these places should focus on their weak links, take effective measures, and strengthen field management.

First, for wheatfields that have not yet sprouted, the peasants should continue to topdress and expand the area on which fertilizer is applied, especially on those wheatfields where the base fertilizer is insufficient or where seeds were sown in the rain, and they must especially topdress and apply chemical fertilizer so as to do all they can to topdress all wheatfields once before the jointing of winter wheat begins. In places where the necessary conditions exist, irrigation and fertilizer application should be combined, and in wheatfields running to weeds or with a high moisture content, timely loosening of soil and weeding should be carried out and temperatures should be increased to preserve soil moisture, all of which will promote the development of root systems and insure the sturdy growth of wheat seedlings.

Second, the management must be classified according to the condition of the seedlings. Weak seedlings and rotational-crop wheat must receive favored treatment. With regard to wheat seedlings that are growing luxuriantly, the water and fertilizer should be controlled, and such measures as timely rolling and cycocel spraying should be taken so that the seedlings are controlled but not weakened, grow vigorously but do not topple over. Practice has proved that an effective measure to increase wheat output is to spray the leaves of the wheat plant in the latter stage of its growth with potassium dihydrogenphosphate. Various places may suit measures to local conditions, energetically propagate the measures, and work hard for large and plump ears on and high output of winter wheat.

Third, in order to strengthen the prevention and control of plant diseases and insect pests, they must conscientiously do a good job of preestimating and forecasting plant diseases and insect pests, and handle well the "two checks and two fixes" (check on the course of outbreaks and fix times for prevention and control; check on the number of outbreaks of plant diseases and insect pests and fix plots on which to carry out prevention and control). The southern part of our province usffers much from wheat rust, which has already begun to spread. We must organize our forces and take effective measures to quickly stamp it out and prevent its spread. A specific method for prevention and control is: Under the premise of undertaking good prevention and control in agriculture, one should pay attention to eliminating the source of the bacteria that causes early spring rust, and spray on every mu a liquid agent composed of 1 percent sulfur ammonia water, or one part fresh water to one part urine, or 3 percent ammonia water, and 100 grams of sodium fluorosilicate in order to control the center of the disease. During the period when the rust is spreading and 1 percent of the leaves are diseased, in the initial period the leaves can be sprayed with 0.5 to 0.8 degrees of lime sulfur, or each mu can be sprayed with 3 to 4 jin of sulfur poweder, or each mu can be sprayed with half a jin of rust-resistant sodium liquid agent, or with 200 grams of bacteria-destroying powder made into a liquid agent. As for insect pests, such as wheat aphid, leafhopper, planthopper and wheat waterfly, they can be sprayed with emulsified Rogor, 50 grams per mu when added to water to form a liquid agent; or sprayed with DDVP and malathion or xinliulin [6580 4288 4340]--they are all highly effective. For the specific methods of preparing and using the agricultural chemicals, the various areas can request guidance from the scientific and technical personnel of the agrotechnical plant protection departments.

Fourth, prevent freeze damage from a late frost. The fundamental freeze-prevention measures are the selection of freeze-resistant strains, the strengthening of field management, and the cultivation of sturdy seedlings. For this the various areas have some specific methods, and they should pay close attention to the forecasts of the local meteorological departments, adopt measures suited to local conditions and protect the wheat by preventing freezing.

Finally the responsible comrades of the provincial agriculture department emphatically pointed out: Looking at the present situation, this year's weather will be comparatively good, which will be extremely advantageous for the growth of winter wheat. But we certainly cannot lower our guard and become careless, be blindly optimistic, and treat the situation lightly with regard to obtaining a bumper harvest of winter wheat. We must still put in a lot of hard work and get a tight grip on wheatfield management in order to strive hard for a bumper harvest of winter wheat.

9727
CSO: 4007/398

PREVENTION OF WHEAT MIDGE BEGUN

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 2

[Article by Li Cheng [2621 2052]: "Prevention and Control of Wheat Midge"]

[Text] Based on the serious harm done by the wheat midge over the past several years in the Hedong Production Brigade, Hetan Commune, Dongxiang Autonomous County, the production brigade, during this year's spring plowing and production, signed a contract with the Plant Protection Station of Linxia Autonomous Prefecture for the active prevention and control of the wheat midge. Since the production brigade put into practice the production responsibility system of contracting production to households 2 years ago, because the contracting households lacked the strength for prevention and control on connected strips of land and the brigade did not organize the masses very well for this purpose, the midge infestation has become quite serious. In 1981, on 1,000-odd mu of wheat there was a steep drop in production. The masses urgently requested help from the agriculture technology departments. In line with the masses' request, the Plant Protection Station of Linxia Autonomous Prefecture and the Agrotechnical Station of Dongxiang Autonomous County, with production teams, signed plant protection technology contracts linked to output. Under the terms of the contracts, the technical departments are responsible for presurveying and forecasting the midge situation, for training technicians for the production teams, and for supplying agricultural chemicals and maintaining machinery, and if crop damage occurs from the use of the agricultural chemicals or if the prevention and control measures are ineffective and production falls, the technical departments will make up for the loss of output; the production teams must respect the technical guidance, are responsible for organizing and leading the contracting households, and shoulder the expenses.

Prevention and control has been carried out once by the production brigade on 2,500 mu of the 2,800 mu of wheat acreage, and a second round of prevention and control will be carried out when the wheat is in the earing and milking stage, so that midge damage can be basically avoided. The cadres and commune members are generally satisfied with this contract system. The sense of responsibility for work on the part of agrotechnical cadres has been greatly strengthened, and they have gone into the fields and to the edges of the fields in time to get a good idea of the midge situation and to guide the masses in scientifically tilling the land.

9727
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QINGYANG PREFECTURE WINTER WHEAT MANAGEMENT STRENGTHENED

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 2

[Article by Gong Shifeng [0501 0013 6912]: "Qingyang Prefecture Strengthens Winter Wheatfield Management"]

[Text] In Qingyang Prefecture, the vast rural areas have got a tight grip on spring field management of winter wheat and are determined to wrest a bumper harvest of wheat this year.

In Qingyang Prefecture, since spring began, because there has been a fairly large amount of snow and rain and temperatures have been inclined to be low, there exists widespread detrimental factors for the wheat, such as little tillering, small colonies and rather poor seedling conditions. Throughout the prefecture, the communes and production teams focused their wheatfield management on the problems that had appeared and first of all applied chemical fertilizer with drill barrows. Once the ground had thawed, the commune members went into action. In places where animal power was insufficient, kinsmen and neighbors helped each other to do the work; in places that were short of drill barrows, the commune members exchanged draft animals so that the drill barrows did not stop working and the tempo of the work was quickened. As of now, throughout the prefecture chemical fertilizer in drill barrows has been applied to over 1.84 million mu, or more than 80 percent of the planned acreage. Second, they intertilled and dug up weeds with hoes. Some communes and production teams on flat land in the counties of Ningxian, Heshui, Zhengning and Zhenyuan, where the weather has been fairly mild, have begun to intertill and to hoe weeds. Some production teams on flat land in the Chengguan Commune of Ningxian County have already completed two hoe-weedings. Third, they have timely prevented and controlled wheat rust, wheat aphid, red spider mite and other plant diseases and insect pests. Throughout the prefecture many commune members' households have prepared adequate amounts of plant ash, and some households of communes and production teams on the Qian Plateau have already sprinkled plant ash on the wheat land. The greater part of the communes and production teams have purchased agricultural chemicals and have made preparations to prevent and control diseases and insect pests that affect wheat.

9727
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INCREASED USE OF PLASTIC FILMS IN AGRICULTURE IN GANSU

Lanzhou GANSU RIBAO in Chinese 24 Apr 82 p 1

[Article by GANSU RIBAO correspondent: "Plastic Mulch Acreage Nearly Doubled in Jiuchuan Prefecture--Popularization of Last Year's Experiments Welcomed This Spring"]

[Text] From the experiments conducted at 18 different locations last year, the broad masses of cadres and commune members have witnessed the economic results from the use of plastic films for the crops. This spring, the relevant departments in the prefecture and the county popularized this method, which was warmly welcomed. By now, the plastic mulch acreage in the prefecture has been increased to more than 4,800 mu, or more than 32 times the experimental acreage.

Last year, the county (municipal) stations for the popularization of agrotechniques in Jiuquan Prefecture planted cotton, watermelons, cucumbers, bailan melons, bottle gourds, beans and so forth, under the cover of plastic films, at 18 experimental spots, totaling 146 mu. Except for a small number of failures caused by typhoons, most of these experiments resulted in greatly increased outputs. At the three experimental spots in Dunhuang County, the average per-mu output of cotton was 267 jin and 4 liang. In the county fine-strain farm, where 4 mu was covered by plastic films for the production of bailan melons, the average weight of each melon was 4.5-5 jin, with the heaviest one at 6 jin and 8 liang. The average per-mu output was more than 5,000 jin, a 67 percent increase over the yield with the uncovered method, meaning an additional income of 168 yuan.

Early last March, after summing up and exchanging experiences in last year's experiments, the Jiuguan prefectural and county agrotechnical stations discussed their plans for expanding the plastic mulch acreage. Then the county (municipal) agrotechnical stations signed a number of contracts with the communes and production brigades on the combination of technology and production. According to statistics available in mid-March, all the communes, production brigades, county horticultural farms, and fine strain farms in the prefecture had already bought more than 48 tons of plastic films, while Dunhuang, Xian and Jinta counties planned to cover nearly 1,000 mu of cotton with plastic films. Many communes and production brigades are still buying plastic films to be used on various types of melons and vegetables in addition to the 3,500-odd mu already covered. It is estimated that the total acreage may exceed 5,000 mu.

9411
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PLANTING OF SAFFLOWERS WIDELY POPULARIZED IN GANSU

Lanzhou GANSU RIBAO in Chinese 21 Apr 82 p 1

[Article by GANSU RIBAO correspondent: "Planting of Safflowers for Oil Extraction Widely Popularized in Zhangye Prefecture"]

[Text] After nearly 2 years' demonstration at designated spots, the planting of safflowers for oil extraction is now widely popularized in Zhangye Prefecture. At present, more than 800 mu has been planted with safflowers, and sowing has continued since early April.

The safflower is valuable as a cash crop because of its oil and flower petals. Among its special features are its high output, its high percentage of oil content, and its wide range of utility. Besides being edible, it has high medicinal value and is an important industrial raw material. Its stems contain a great deal of albumen and are excellent fodders for domestic animals. Zhangye Prefecture has favorable conditions for planting safflowers because of its dry climate, large temperature fluctuations and abundant sunlight. Furthermore, the people here have been all along fond of, and are experienced in, planting safflowers. In 1980, the botany institute of the Chinese Academy of Sciences designated Zhangye Prefecture as one of the main safflower production areas of the country, and the prefectural agriculture institute undertook the task of nurturing and propagating safflowers. These institutes have on different occasions brought in from Beijing more than 60 fine varieties of safflowers of American, Mexican and domestic origins, and planted them at different designated spots in the irrigated and the high and cold mountainous areas. They achieved fairly good results after 2 years' experiments. Last year, more than 170 mu was planted with safflowers in the prefecture. The highest per-mu output was 500 jin, and the lowest was 300, with an oil extraction rate of approximately 40 percent. This year, in addition to those areas in state farms and communes and production brigades, nearly 500 mu along the banks and on the deserted beaches was used by the commune members for planting safflowers.

9411
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BRIEFS

GANSU SPRING WHEAT SOWING--According to data supplied by the agricultural departments in the province, sowing for spring wheat and miscellaneous summer crops has been basically completed over an area of 14 million mu, an increase of 2 million mu over last year, in the countryside of the province, according to this year's plan. All rural areas are more practical in their farming preparations this year; thus the sowing was timely and its quality is good. Sowing for spring wheat was completed by the end of March in Jinta County, Dunhuang County, the various counties in the Heihe irrigated area, the Jingdian irrigated area, the Shiyanghe irrigated area, and the Lintaochuan irrigated area. [Text] [Lanzhou GANSU RIBAO in Chinese 18 Apr 82 p 2] 9411

EXPERIMENTAL WATER DESALINIZATION PLANT--Lanzhou, 29 Jun (XINHUA)--China's first experimental water desalinization plant will be built on the banks of the Yellow River in Lanzhou, capital city of Gansu Province, according to the Gansu Provincial Academy of Sciences here today. The plant will help assess water desalinization methods applicable to China. More than 100 million people in China live in areas with saline or alkaline water, academy sources said. The pilot plant will process 1,000 tons of alkaline water daily. Started in 1980, its major buildings will be completed this year. [Text] [OW010453 Beijing XINHUA in English 0725 GMT 29 Jun 82 OW]

CSO: 4006/418

IMPROVED FOREST MANAGEMENT REPORTED

Guangzhou NANFANG RIBAO in Chinese 11 May 82 p 1

[Article: "Timber Procurement in Province During First 4 Months Increased By More Than 10 Percent Over Same Period Last Year. Implementation of Timber Production Policies and Strengthening of State Plan Concepts"]

[Text] Following the practice in all prefectures of the province of centralized administration and management of timber, initial successes have been realized in the strengthening of state plan concepts, early institution of this year's timber plan quotas, and active launching of contract agreements for procurement work. Statistics show that during the first 4 months of this year, quantity of timber procurement for the province amounted to 533,000 cubic meters, a 10.9 percent increase over the same period last year.

Because of the influence of "leftist" mentality, inconsistency in mountain forest ownership rights, and turmoil in forest area production for many years, state plan concepts and legal concepts of numerous cadres and commune members became increasingly diluted, and reckless cutting and denudation of forests, plus meddling in timber administration by many parties could not be stopped. This led to the province being unable to fulfill its state timber quotas for 4 consecutive years.

Since last year, all jurisdictions in the province have implemented the Central Committee and State Council "Decisions on Various Problems Relating to Forest Protection and Development," and have taken firmly in hand the "three fixed" tasks in forestry. They have diligently put into effect the central government and provincial government decisions and methods of implementation pertaining to centralized and unified management of timber. With this, most forest region communes and brigades in the province have regularized forest and mountain rights, and the tumultuous situation of multiple administration and management of timber has been corrected. Most prefectures and counties have virtually put an end to reckless cutting and denudation of forests. They have closed down the free market in timber, have struck at speculation and profiteering in timber and have brought order to forestry production in forest areas to assure the normal production and supply of timber. After all forest areas in Huiyang Prefecture instituted centralized administration and management of timber, the signing of contract agreements for timber procurement proceeded smoothly. Quantity of timber procured during the first 4 months of this year was more than 37,000 cubic meters more than for the same period last year. Xingning County investigated and disposed of a group of cases involving reckless cutting and denudation of mountain forests, attacked violators, brought order to production, and during the first 4 months of this year provided the state with more than twice as much timber as during the same period last year.

In the process of instituting centralized administration and management of timber, forest areas in all jurisdictions diligently put into effect various specific policies pertaining to timber production and management. They set the rights, responsibilities, and beneifts for all counties, communes, brigades, commune members, and administrative units involved in the production of timber so that they would produce timber in accordance with state plans. In addition, state readjustment of timber prices brought material benefits to the masses in forest areas throughout the province. This played a positive role in arousing the enthusiasm of the masses in forest areas for the production of timber and in assuring fulfillment of state procurement plans.

Timber is an important material in national construction and the livelihood of the people. In the current situation of a scarcity of forests, if forest resources are to be effectively protected and rationally used, centralized and unified management of timber is completely necessary in order to change the chaotic situation of the past in which there was multiple management and multiple meddling, "forests being created with a single hoe and trees being cut down with 100 axes." While implementing the "three fixeds" in forestry this year, all forest areas have strengthened centralized management of timber. The substantial increase in timber procurement throughout the province during the first 4 months of the year provides powerful testimony to this.

Deserving of attention is the failure of individual places to proceed from the overall situation, wilfully increasing timbering outside of plan. In some places, most of the timber procured is retained for local use, very little of it being surrendered to the state. Alternatively, they keep the large timber of good quality, surrendering to the state small timber of inferior quality. This is a manifestation in the economic realm of selfish departmentalism and decentralism, which should be resolutely corrected. In still other places, because policies have not been implemented and concepts of law are weak, a rather serious situation of reckless cutting and denudation of mountain forests continues to exist, and this too requires effective action to bring it to a halt.

9432
CSO: 4007/430

CONTROL OF RICE DISEASES DISCUSSED

Guangzhou NANFANG RIBAO in Chinese 24 Apr 82 p 2

[Article: "Need for Strong Action To Prevent and Control Rice Blast"]

[Text] Provincial Academy of Agricultural Sciences plant protection experts believe that rice blast will be rather serious in Guangdong Province this year. The evidence is as follows: 1) Last year rice blast occurred on 4 million mu throughout the province, and there is a large accumulation of bacteria sources. 2) During the seedling propagation season this year, temperatures tended to be low, and everywhere seedling quality has been rather poor; this helps the spread of bacteria. 3) Most early rice varieties being promoted are disease-prone varieties. 4) In recent years fertilization has increased everywhere, nitrogenous fertilizer being particularly ample. 5) Rice leaf-blast disease has broken out everywhere among early crop seedlings. Monitoring reports from provincial crop disease and insect pest monitoring and reporting stations tell of the occurrence of rice leaf-blast disease in seedling fields in Panyu, Huaxian, Taishan, Xinhui, Meixian, Wuhua, Jiaoling, and Yangjiang counties, and it has now gone into the open fields. A similar situation exists elsewhere throughout the province. Unless timely preventive measures are taken, rice-leaf-blast will develop further during April and May. By early or mid-June, if there is a lot of rainfall, outbreaks of rice neck blast will be fairly serious.

In order to prevent and control rice blast, emphasis on scientific fertilizer and water management is necessary right now to increase the rice plants' resistance to disease. In fertilizing, the principle of "heavy early" (within 20 days after transplanting), "late light" (40 days after transplanting when the yellowness has faded from the plants), and "nothing or supplemental in the middle" (between 20 and 40 days after transplanting) should be followed. Even fertilization on time and in the right amounts should be done according to weather conditions, soil conditions, and the condition of plants, and one should remember to give a little nitrogen fertilizer during the mid season. During the jointing and differentiation period, the fields should be promptly drained of water, sunned, and exposed to the air so that leaf color will "yellow" normally, so as to control or reduce the incidence of leaf-blast. Five or 6 days before heading, fields should be drained and exposed to the air again to bring about the second "yellowing" for the control or decrease of rice neck blast and stem node blast.

Simultaneously with scientific fertilizer and water management should be an intensification of field inspections to determine the disease situation and promptly apply pesticide for prevention and control. Generally, beginning with the tillering stage it is necessary to spray pesticide once or twice to prevent or control leaf blast. Centers of disease outbreaks must be more intensively controlled with sprayings once every 3 or 4 days. Later on between the late booting stage and the onset of heading, spraying should be done once, and after full heading spraying should be done once again to prevent and control rice neck blast. Because the period of disease susceptibility is fairly long during the heading stage, another spraying during the in-the-milk stage would be even better.

All areas report that current use of "EBP" is not very effective in the prevention and control of disease. This may be the result of pesticide quality or because, after much use, the diseases have increased their immunity to the pesticide. Therefore, quantities of pesticide should be in reased, spraying done with a solution of 3 liang per 120 - 140 jin of water per mu. Additionally, depending on circumstances, each jurisdiction may select for use the following concoctions: 50 percent carbendaxol miscible powder dissolved at a rate of 2 liang per 120 - 140 jin per mu, or 50 percent Tuobujin [2094 1580 3160] miscible powder dissolved at a rate of 2 liang per 120 - 140 jin of water per mu, or 40 percent edinphensoph emulsion dissolved at a rate of 2 liang per 150 jin of water per mu, which can be used for the simultaneous control of rice leaf hoppers.

9432
CSO: 4007/425

LEAN MEAT HOG RAISING BOOSTED

Guangzhou GUANGZHOU RIBAO in Chinese 10 May 82 p 1

[Article: "Guangzhou's Fine Breed Hog Farms Become Breeding Centers for Lean Pork Hogs. Pork From This Breed of Hogs Accounts for More Than 65 Percent of Total"]

[Text] Guangzhou Municipality's fine breed hog farms have begun to take shape as purebreed hog breeding centers for lean pork hogs. They have also provided the municipality, the province, and other provinces with 136 head of purebred lean pork boars and a large quantity of fine breed hog semen to make a contribution to the breeding and promotion of lean pork hogs.

In order to satisfy popular demand in the municipality for lean pork, in October 1978 the Municipal Agriculture Bureau began operation of the Guangzhou Municipal Fine Breed Hog Farm in the foothills of Rentouling at Taihe Commune in Guangzhou's northern suburbs. When the farm was established, several patriots from industrial and commercial circles in Hong Kong subscribed HK$300,000 for joint partnership, and imported 96 head of fine breed lean pork hog varieties from the United Kingdom. Breeds imported were Durocs, Hampshires, Landraces, and British Large Whites. Now these four fine breeds have grown to number more than 300 head. Taken together with other fine hybrid hog varieties, the number being raised totals more than 500 head. The farm has built 13 hog housing facilities of farily advanced design on an area of more than 4,000 square meters. The entire production flow has been made a continuous process, and a full range of scientific instruments and equipment exists, the only such in the country. There are four fine variety foreign purebreed lean pork hog breed farms. During the past few years, Guangzhou Municipality's fine variety hog farms have provided the municipality, the province, and other provinces with 130 fine variety purebred boars and large quantities of fine variety hog semen, and have also provided fine variety hog semen free of charge to hog raising farms in Shahe, Jiangcun, and Renhe communes in the municipality's suburbs. They have helped these communes train technicians and to carry out comprehensive hybrid experiments. All jurisdictions have achieved preliminary successes in the hybrid experiments they have conducted using fine variety purebreed hogs and fine variety hog semen provided by Guangzhou Municipality's fine variety hog farms. The proportion of lean pork from hybrid hogs averages more than 10 percent more than that obtained from local hog varieties.

The aforementioned four fine variety lean pork purebred hogs that the Guangzhou fine variety hog farm introduced from the United Kingdom have three noteworthy characteristics: One is much lean pork, lean pork amounting to more than 65 percent of total pork, about one-third more than the lean pork obtained from local hogs. The second is rapid growth and development, an increase of more than 40 jin per month taking place during the period of maximum growth. Within 6 months after birth, weight may reach more than 180 jin. The third is a high rate of feed conversion to meat, an average 1 jin of meat developing from every 3 jin of feed consumed.

In addition to working hard at breeding and providing other places with lean prok purebred boars and fine variety hog semen in 1980, the Guangzhou Municipal fine breed hog farm began observation of binary hybridization experiments, namely the corssbreeding of "Duroc" and "Hampshire" purebreed boars with local "Large Spotted White" sows. Hybrid progeny grow meat faster than local hog varieites; they have good body shape; and the rate of feed conversion to meat is high. The lean pork ratio is also 10 percent higher than that of local hog breeds. In order to achieve even higher targets, beginning last year they initiated trinary hybridization experiments. Currently the first group of trinary hybrid hogs are in process of being evaluated.

9432
CSO: 4007/430

GUANGDONG

RICEFIELD CARE METHODS EXPLORED AT CONFERENCE

Guangzhou NANFANG RIBAO in Chinese 24 Apr 82 p 1

[Article: "Field Care Intensified in Light of This Year's Characteristics. Agricultural Experts Give Counsel and Contribute Plans To Win Bumper Harvest From Early Crop. Emphasis Given Sensible Fertilization, Scientific Use of Water and Doing a Good Job of Disease Prevention and Countering Disasters"]

[Text] At the symposium for fertilizing techniques recently convened in Guangzhou, numerous agricultural experts put forward suggestions as to how to intensify field care to win bumper harvests from the early crop.

In analyzing the current early rice production situation, the experts noted that: during this year's farming, with the exception of Hainan Island, the time of transplanting seedlings throughout the province was fairly concentrated, which was helpful to field care. Supplies of agricultural means of production such as chemical fertilizers and pesticides were also rather good. However, problems were also numerous. One was the lateness of the season, transplanting of seedlings which ended about 7 days later than in former years. Second was poor seedling quality. Seedlings grown in some areas around the fields were dwarfed, old, weak or yellow. In mountain and hill areas, seedlings were tender, closely planted, and weak, and in some places too many seedlings were transplanted in a cluster. Third, in some places organic fertilizer was fairly scarce. Fourth, following transplanting, seedlings greened up slowly and tillering was delayed because of the weather. Fifth, damage from diseases, insect pests, and rats was fairly severe. Sixth, rainstorms and typhoons were fairly frequent this year. The first typhoon came early, posing a threat to flowering of the early rice crop. Consequently, the task of winning increased yields from the early rice crop will be a rather arduous one.

In order to win a bumper early rice crop harvest, the experts believed that: the overall guiding mentality must be the adaptation of general methods to specific situations, tailored guidance, attention to special characteristics, seeking high yields in intermediate yield areas, and bracing oneself to fight diseases and disasters to win a bumper harvest. Among specific actions to be taken, attention should go to the following several links:

(1) Sensible use of fertilizer. There should be no indiscriminate use of nitrogenous fertilizer, and increased use of phosphate and potash fertilizers should be energetically advocated in order to increase plant resistance.

The principles of fertilization should be flexibly applied in accordance with different soil, weather, variety, and seedling growth conditions. In order to avoid bolting of seedlings in midseason, the following criteria should be adhered to: First is that for conventional varieties, the number of tillers per mu should be controlled at 200,000 to 250,000; for hybrid varieties, they should be controlled at around 200,000. Second is at the end of April and no later than "summer begins" [around 5 May], no matter whether or not there are sufficient seedlings, the seedlings have to be controlled through rapid exposure and sunning of the fields.

(2) Maintenance of scientific use of water. First is a change during the early stage of seedling growth from deep irrigation and slow irrigation to cutting back on stagnant water and use of shallow water wetting, exposing the fields from time to time in order to increase soil temperature, increase oxygen, and vitalize the root system. Second is a change from delayed seedling sunning and heavy sunning during the midseason of seedling growth to early field exposure, early sunning, much field exposure and light sunning depending on different circumstances, to promote deep rooting of seedlings in order to increase resistance. Third is a change from long irrigation or drying up with yellow maturing during the late stage of seedling growth to moistening irrigation and much irrigation with running water to prevent black root and premature ripening from high temperatures.

(3) Attention to prevention and control of disease, insect pest, and rat damage. Disease, insect pest, and rat damage for the province as a whole this year has been forecast to be as serious as last year. The threat is fairly great from blast of rice, sheath and culm blight, bacterial blight, leaf hoppers and rat damage, particularly early outbreaks of blast of rice causing widespread damage.

This conference was convened by the Guangdong Provincial and Guangzhou Municipal Oil and Grain Crop Society. Delegates to the conference totaled 45 and included high and middle rank agronomists and technicians from the province and Guangzhou Municipality as well as from some prefectures.

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CSO: 4007/424

BRIEFS

FURTHER ON TYPHOON NO 5--The Central Meteorological Observatory issued a typhoon warning at 0600 [2200 GMT] on the morning of 30 June. The center of this year's No 5 typhoon moved to sea areas approximately 150 kilometers south of Yangjiang in Guangdong Province at 0500 [2100 GMT] this morning, that is, 20.4 degrees north latitude and 112.0 degrees east longitude. Maximum wind near the center of the typhoon ranges from force 8 to 9. The center of the typhoon is now moving in a northerly direction at about 10 kilometers per hour and is expected to continue its northerly movement, gradually approaching the coastal areas of western Guangdong. It is expected to cross the coastal areas sometime this afternoon or evening. Due to the typhoon, the sea areas in the northern part of the South China Sea and coastal areas of Guangdong will experience strong winds of force 6 to 8 during the daytime and night today. Areas along the path of the center of the typhoon will experience strong winds of force 8 to 9. Heavy or torrential rains are expected in the coastal areas of Guangxi and Guangdong and on Hainan Island. All units concerned, please pay attention to weather forecasts by local meteorological stations. [Text] [OW300644 Beijing Domestic Service in Mandarin 2230 GMT 29 Jun 82]

PRODUCTION INCREASES--All places in Hainan administrative region have seriously implemented the State Council's directive on speeding up the exploitation and construction of the region. The region increased agricultural, forestry, livestock, sideline and fishery production in the first half of this year. The region's early-rice output this year was nearly 10 percent more than in the corresponding period of last year. Compared with the first half of last year, output of sugarcane increased by some 50 percent, output of peanuts and pineapples each increased by some 40 percent, output of dry rubber increased by over 10 percent and output of coffee, lemongrass, tea and pepper increased by some 20 percent. Since the second half of 1980, leadership organs at all levels of the party and the government in the region have conducted investigation of agricultural resources, formulated plans for agriculture and readjusted production arrangements. The region now has about 6.1 million mu of paddy rice-sown fields and has cultivated sugarcane and other industrial crops on 300,000 mu of low-yielding dry fields. The region has cultivated tropical industrial crops, with rubber as the main product, in mountainous areas, hilly land and slopes. The region has vigorously developed windbreak forest belts along the coastal areas. The region has made full use of barren mountains and slopes to develop the breeding of cattle and goats. The region has also developed the production of aquatic products in ponds, lakes, reservoirs and the sea. [HK011117 Haikou Hainian Island Service in Mandarin 0330 GMT 30 Jun 82]

CSO: 4007/459

BRIEFS

ADDITIVE FACTORY OPENING--Nanning, 30 Jun (XINHUA)--China's first factory for production of feed additives containing lysine protein, essential to animal nutrition, opened recently in the Guangxi Zhuang autonomous region. The factory produced 600 tons of the additive annually, made with the native product cassava. The additive aids animal growth and reduces cost. [Text] [Beijing XINHUA in English 0704 GMT 30 Jun 82 OW]

CSO: 4007/143

'HEBEI RIBAO' COMMENTS ON RURAL WORK TASKS

HK250122 Shijiazhuang HEBEI RIBAO in Chinese 18 Jun 82 p 1

[Editorial: "We Should Concentrate on Tackling Three Tasks in Rural Work"]

[Excerpts] What are the main tasks to be tackled in rural work? This is a major topic that should be frequently studied by the leadership at all levels. By discovering and tackling the main issues in rural work and seriously acting to solve them, we can stimulate the unfolding of all rural work and get twice the result with half the effort. Otherwise, if we tackle everything at the same time without drawing up the priorities, we will not be able to achieve the result we should.

What then are the main tasks to be tackled in the rural areas at present and for a time to come? Generally speaking, as in other work, we should concentrate on building the two civilizations. This is the general demand. To put it specifically, there are three main things to be tackled: Vigorously developing agricultural production; unwearyingly working to perfect, enhance and consolidate the production responsibility systems; and strengthening the leadership of the rural party branches and carrying out organizational rectification of them. These three tasks are the three cardinal links in rural work; they are closely linked together and inseparable. Developing production is the aim of setting up the production responsibility systems and the material basis of consolidating these systems; further perfecting the production responsibility systems is the source of promoting the rapid development of production; and strengthening the leadership of the party branches and rectifying the party's organization is the main guarantee for fulfilling the other two tasks. We have done a lot of work in this respect since last year. In particular, notable achievements have been scored in setting up and perfecting the production responsibility systems. Only some areas in Hebei set up these systems before 1981, and very few units set up the system linking remuneration to output. Now almost all the province's 126,000 basic accounting units have set up production responsibility systems. Thanks to the establishment and perfection of these systems, the previously unsuitable production relations have been readjusted and the development of productive force has been greatly stimulated. The province reaped a good harvest last year despite serious drought. The rural areas are not politically stable and united, the peasants' socialist enthusiasm has surged up to an unprecedented extent, production has developed very fast, and there are extensive avenues for producing wealth. Not only have the majority of places solved the problems of adequate food and clothing; in addition, a number of peasant households and communes and brigades that have become rich ahead of others have appeared. The rural situation is indeed very good. Our party organizations and the party members have also been made stronger amid the readjustment of production relations and the practice of production. Last July and August, conditions of paralysis or semi-paralysis appeared on 20 to 30 percent of the production brigades in the province, but now the problems have in most cases been solved. Only 1 or 2 percent have yet to solve their problems, and in most cases these were caused by historical factors. The proportion of first and second-category grassroots party branches has increased, while that of third-category ones has declined. Of course this does not mean that we no longer have any problems. The problems still exist. As far as developing production is concerned, there are still many problems that need solving; and one of the major problems is that of emancipating the mind. First we must carry out emancipation in production relations; organizing responsibility systems represents emancipation in the production relations. Second we must emancipate ourselves from the bindings of simply growing grain and nothing else, and promote diversification. We have still not sufficiently emancipated our minds in this respect. Third, we must emancipate ourselves from old-fashioned and backward cultivation methods and vigorously promote scientific cultivation. At present we have not done too well in this aspect of emancipation. As far as the production responsibility systems are concerned, last year the provincial CCP Committee stipulated eight tasks for perfecting the systems, and the majority of these have now been fulfilled. Some of these tasks still need to be done, in connection with production. As for strengthening the leadership of the party branches and rectifying the party's organizations, it is all the more necessary to devote great effort to this task. We must therefore continue to get a good grasp of this work.

Developing production, perfecting the responsibility systems and strengthening the leadership of the party branches are closely linked and inseparable tasks. However, they each have their own characteristics. In developing production, we need not only to get a good grasp of current production but also to promote long-term and fundamental construction work. There are three main aspects to be grasped here. First, we must implement the guiding principle of comprehensively harnessing the land, the waters and the forests, with the land in first place. Hebei is on the Loess Plateau and suffers drought 9 years out of 10. We have to fundamentally change the agricultural production conditions. We must work hard to level the land and carry out deep plowing, and do a thoroughly sound and effective job in building the farmland ourself. This is for the following reasons: Large areas of the province's farmland can be deep-plowed; the area of resisting drought and preserving soil moisture is also extensive; not much investment is needed and results are rapid; and both the collectives and the individuals can carry out this work. If we are determined, a great transformation can occur in 2 or 3 years, or 4 or 5 years at the most. At the same time we must pay attention to water conservation and forestry development. Second, we must extensively promote diversification, rationally readjust and straighten out the existing items in diversification and develop new items. We must vigorously develop households that become rich through hard work (specialized households and key households). This is an affair with a great future. These households should be a bridge for leading forward all the peasant households, so as to gradually make agricultural production specialized and enable the peasants to get rich as quickly as possible. Third, we must promote scientific cultivation and strive to achieve major breakthroughs in 2 or 3 years in finestrain seed, plant protection and rational cultivation. In perfecting the agricultural production responsibility systems, we must, in guiding ideology, first establish the idea of building these systems for a long time. On the one hand we are thus drawing the historical lesson from the failure to carry out stabilization, consolidation and enhancement after the establishment of the cooperatives, and on the other it is a practical requirement. Specifically, we must grasp the following aspects: 1) Continue to conduct deep-going socialist education for the peasants in "keeping two things unchanged for a long time." "Taking simultaneous account of the interests of three parties," and "warmly loving four things;" 2) Correctly handle the relations between the state, the collective and the individual. We must lay particular stress on subordinating ourselves to the state's interests, uphold the interests of the collective, and put the state's interests in the first place. This is an issue the peasants must pay attention to solving after gaining their proper decisionmaking powers; 3) Continue to correctly handle the relationship between centralized control and individual responsibility. Last year we paid more attention to individual responsibility, and this was correct and in accord with the actual situation. Now we must pay more attention to the aspect of centralized control. This is an aspect we must stress solving after putting individual responsibilities on a sound basis; 4) We must do well in setting up the responsibility contracts. This is the concentrated expression of correctly taking simultaneous account of the interests of the state, the collective and the individual, and we must also ensure that the contracts are fulfilled; 5) Carry out extensive and penetrating investigation and study, and continually discover and solve new problems and contradictions that crop up in the responsibility systems. In strengthening the leadership of the rural party branches and carrying out rectification of the party organizations, we must this year concentrate efforts on solving the problems of the roughly 15 percent of branches that are backward. Large numbers of cadres have already been sent to the rural areas. We hope that they will score achievements and gain experience.

The rural tasks are heavy, and at present everyone is very busy with the summer farmwork tasks. The key to fulfilling our tasks well lies in improvement of work methods and style by the party committees and cadres at all levels. In the past our work was done mainly in the production teams, but now we must carry out specific work regarding the peasant households in addition to the production teams. The leading comrades in many parts of the rural areas have set up ties with specific households, and by helping them to develop production and get rich through hard work they can lead still more people forward and progress from the enrichment of some to the enrichment of everyone. This is a specific expression of the party's mass line work method of from the masses, to the masses. Every comrade engaged in rural work must do this. In short, we must ensure that our work meets the new situation following the readjustment of the production relations, stimulate all rural work and do still better in agricultural production.

CSO: 4007/459

COTTON SOWING REPORTED WELL UNDERWAY IN HEBEI

Shijiazhuang HEBEI RIBAO in Chinese 20 Apr 82 p 2

[Article by Economic Crop Department, Provincial Bureau of Agriculture: "Sixty-nine Percent of Province's Cotton Sowing Completed Through Diligent Strengthening of Leadership and Firm Attention To Combat Against Drought in Sowing"]

[Text] Since mid-April, from south to north in Hebei Province a new upsurge has begun in cotton sowing. Statistics as of 28 April show 7.55 million mu already planted, and this is 69 percent of the cotton planting quota. Ten counties including Jinxian, Shenze, Wuji, Gaocheng, Chaoxian, Luancheng, Zhengding, and Huolu have already fulfilled their cotton sowing quotas.

Primary reasons for the fast pace and good quality of cotton sowing in the province this year are as follows: 1. Ninety-six percent of cotton producing production teams throughout the province have further consolidated and perfected production responsibility systems, and various cotton-growing policies have also been further implemented. This has further aroused the enthusiasm of the broad masses of cotton-growing peasants who have acted early to combat drought in cottonfields to prepare for sowing, paying strict and careful attention. The area in which soil moisture has been created is large; base fertilizer has been amply applied; and the fine variety area is large. 2. All levels of agricultural scientific and technological personnel have actively signed technical contracts linked to output with communes and brigades, improving technical direction. Throughout the province, training of more than 3.3 million technical personnel has been done in various ways. This includes the training of 3.14 million cotton-growing mainstay cadres, and cotton growing techniques have been brought to every home and household. Each level of agricultural bureau has written several kinds of small booklets on cotton-growing techniques and have published several hundred thousand copies. This has played a very great role in the popularization and improvement of cotton-growing techniques. 3. Strengthening of leadership. All prefectures and counties have convened different kinds of conferences for the purpose of carefully arousing mentalities to prompt and sufficient planting of cotton, and to making concrete preparations. As April dawned, all levels of party and government leaders in cotton-growing areas made the central task in current agricultural production, combat against drought for the sowing of cotton. They concentrated leaders, time, work forces, and tools to combat drought and sow seeds initiating an upsurge to combat drought and sow seeds. Leadership cadres at all levels divided up responsibilities level by level, and 30,000 cadres in government organizations went into the frontline of combat against drought to do planting, to spread experiences, and to solve problems.

Right now places that have not completed sowing are applying an indomitable spirit of combat against drought to wind up sowing. Places that have already completed sowing are rapidly starting a check of soil moisture conditions and of seedling conditions. They have taken effective measures for places missing seedlings, using every possible means to get a full stand of cotton.

9432
CSO: 4007/423

HIGH YIELD COTTON GROWING TECHNIQUES OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 9 May 82 p 1

[Article: "How to Effectively Check and Replace Cotton Seedlings, Thin Seedlings and Do Final Singling of Seedlings"]

[Text] Cotton sowing will soon be finished. Next will come the checking and replacing of seedlings, the thinning of seedlings, and the final singling of seedlings. Some thoughts about these techniques are discussed below for the reference of all jurisdictions.

Let us first talk about the checking and replacing of seedlings. The key to checking and replacing seedlings lies in "earliness." The advantages of early replacement of seedlings are: savings of labor, good survival, seedling ease in catching up with the others. Depending on how many seedlings are missed and the time when seedlings are replaced, different replacement methods may be used. One is for cottonfields in which about 40 percent of seedlings are missed requiring forced sprouting and sowing in the empty spaces as replacements. The second is when between 20 and 30 percent of seedlings are missing when the method of replacement is planting with supplemental seedlings. The third is when missing seedlings number fewer than 20 percent and when cottonfield growth has reached the leafing stage. In this case it is necessary to transplant shoots and seedlings, taking seedlings from place in the field where there are too many to fill in bare spots in other places. The essentials of transplanting seedlings are as follows: good weather, small holes, not much water, small seedlings. When transplanting, place the seedling in the hole and then fill in around it with a small amount of soil. Water each hole with 1 or 2 liang. When filling in with soil, do not compact it, and make sure the seedling is in the soil in its former position. This makes for a high survival rate. Fourth is when between 5 and 10 percent of seedlings are missing or when seedlings are still missing after the thinning of seedlings, when transplanting with soil around the roots may be done. At the time of transplanting care should be taken not to disturb the soil on the seedlings and not to damage the roots. Care should begin immediately following replacement planting or transplanting to reduce, insofar as possible, gaps in the overall cotton seedling stand.

Let us talk next about the thinning and final singling of seedlings. Thinning and final singling of seedlings should also be done early rather than late. This is because the quantity of cotton seeds sown is generally several to more than 10 times greater than the density of seedlings that will be actually retained. Numerous seeds mean dense seedlings, and if thinning of seedlings is done late, the seedlings will be squeezed together, making them likely to be spindly. This will cause late squaring and late flowering to the impairment of cotton quantity and quality. Experiments have shown that on irrigated land squaring comes 3 days earlier when plant heights average about 1 centimeter at the time the first true leaves appear as compared with when the third true leaves appear. Consequently after the cotton seedlings have all sprouted and the first true leaf has developed, thinning of seedling and final singling of seedlings must be done to remove the weak ones and leave the strong, to leave the large and remove the small, and to leave the healthy while removing the sickly. Distance between seedlings should be half the distance of plants following final singling. Once the third true leaf has appeared on cotton seedlings, the stem tissue gradually becomes woody and the main root goes down fairly deeply into the soil. Final singling must be done promptly at this time. Density of remaining seedlings should be reasonable so that individual plants will develop well and so it will be possible for plant colonies to bring increased yields. Singling should be done on the basis of soil fertility, amount of fertilization, intensity of care, and output requirements. To realize the full potential for high yields of individual plants, for high yield fields that produce more than 150 gin per mu of ginned cotton that have fertile soil and are well fertilized, density should be aboue 4,000 plants per mu. Cotton fields that produce yields of 100 jin per mu of ginned cotton and are of average fertility should have a plant density of about 4,500 per mu. In sandy, infertile, porous soils where moisture and fertility conditions are poor, most important is the role of plant colonies in increasing yields so density should be above 5,000 plants per mu.

9432
CSO: 4007/431

COTTON PLANTING REPORTED UNDERWAY IN DROUGHT CONDITIONS

Shijiazhuang HEBEI RIBAO in Chinese 26 Apr 82 p 1

[Article: "Handan Prefecture Combats Drought To Plant Cotton on Time. Concentrates Forces To Do a Crash Job of Completing Cotton Sowing Tasks"]

[Text] Handan Prefecture has concentrated forces to do a crash job of cotton sowing. As of 21 April, more than 1 million mu had been sown throughout the prefecture.

This year Handan Prefecture has done a solid job of sowing cotton and has a good foundation. Nevertheless numerous disadvantageous factors exist: One is that this year is the 5th year of continuous drought. Cottonfields are entirely devoid of soil moisture; electric power is insufficient; there is a shortage of petroleum fuels, and difficulties in combating drought are great. Second is that the prefecture's cotton growing area has been expanded by more than 800,000 mu over what it had been last year; numerous cotton growing teams have been newly added, and sowing tasks are great. In light of this situation, the Handan Prefecture CCP Committee and government administrative offices enunciated a guiding mentality of "early action, concerted efforts to combat drought, and on-time planting." In order to have sufficient soil moisture for planting on time, it was decided that after 15 April, the emphasis would be shifted from the watering of wheat for greening up of the previous period, irrigation of the soil taking precedence over watering of the wheat. In addition, effective measures were taken to solve the problem of insufficient diesel oil. Close attention was given off-peak use of electricity, greatly hastening the pace of cottonfield watering. After 5 April soil temperatures to a depth of 5 centimeters had stabilized at above 14 degrees, and on 10 April most of the counties in the prefecture began test planting.

9432
CSO: 4007/423

COTTON SOWING VIRTUALLY COMPLETED IN SHIJIAZHUANG PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 27 Apr 82 p 1

[Article: "Shijiazhuang Prefecture Substantially Complete Cotton Sowing Tasks. Promptly Switches to Checking on Soil Moisture and Seedling Conditions and to Thinning Seedlings"]

[Text] Shijiazhuang Prefecture's Cotton growing quota for this year is 2 million mu. As of 25 April, except for a small amount of dryland cotton where water continues to be carried for the dibbling of seeds, more than 190 million mu have been planted.

More than 95 percent of Shijiazhuang Prefecture's production teams have instituted cotton production responsibility systems linked to output, and this has aroused the enthusiasm of the broad masses of peasants for doing a good job of cotton growing. This year's cotton sowing has four distinguishing characteristics as compared with that of former years. One is that scientific cotton growing techniques have been spread far and wide. Incomplete statistics show the training of a total of more than 850,000 cadres and masses in the prefecture. The special characteristics of the prefecture's major cotton varieties and techniques for sowing seeds to assure full stands have been made known to every household. Second is the large area planted to fine varieties. The area sown to intermediate early maturing fine varieties such as "Jimian No 2" and "86-1" has increased from last year's 780,000 mu to 1,756,000 mu. Third is the wide area for which cotton seeds have been chemically treated. Fourth is the high quality and fast pace of sowing. With the virtual completion of cotton sowing, all areas have turned their attention to care of cotton seedlings. They have launched a general check of soil moisture and seedling conditions, and the thinning of seedlings.

9432
CSO: 4007/423

FIGURES GIVEN FOR 1981 STATE GRAIN, OIL PURCHASES

Shijiazhuang HEBEI RIBAO in Chinese 26 Apr 82 p 1

[Article: "Hebei Province Overfulfills 1981 Grain and Edible Oil State Purchase Plans. Varieties in Storage Better Than in Former Years. Procurement of Grain and Oil at Negotiated Prices Scores Startling Success"]

[Text] Hebei Province's 1981 grain and edible oil state procurement plans have been overfulfilled; varieties in storage are better than in former years; and procurement of grain and oil at negotiated prices has scored startling success.

As a result of the steady completion and perfection of production responsibility systems, the enthusiasm for production of the peasants in the province's farflung rural villages was aroused last year, and they triumphed over 3 consecutive years of serious drought to win bumper harvest of grain and oil-bearing crops. Cadres and commune members in the farflung rural villages eagerly surrendered grain to be delivered to the state, and sold surplus grain in active support of the building of the four modernizations. Overfulfillment of grain quotas by 10.8 percent completed state purchase plans for the province as a whole, and 1.1 billion jin more than last year was put into storage. Six counties completeing state grain purchase quotas with more than 100 million jin included Gaocheng, Shulu, Chaoxian, Luancheng, Leting, and Yongnian, 3 more counties than last year. Quantities of soybeans, mung beans, and millet going into storage greatly exceeded those of last year. Purchases of fats and oils exceeded plan by 28.1 percent. While striving to do a good job of grain and oil procurement work, purchase of grain and oil at negotiated prices was begun. A total of 1,065,000,000 jin of grain and 54 million jin of edible oil were purchased at negotiated prices. In addition, grain purchased from outside the province to meet Hebei Province's needs amounted to more than 300 million jin. This played a positive role in replenishing state grain resources, in enlivening city and country markets, and in providing for the livelihood of the people.

9432
CSO: 4007/423

IMPORTANCE OF COMPOUND LIVESTOCK AND POULTRY FEED STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 13 May 82 p 2

[Article: "Hebei Province Has Built More Than 90 Livestock Feed Processing Plants. Restructures Feed Composition and Promotes Livestock and Poultry Industry Development"]

[Text] Hebei Province's newly developed livestock feed industry is developing steadily. Statistics from provincial livestock feed units show that 10 prefectures, nine municipalities and 113 counties in the province have set up feed companies, and that more than 90 compound (mixed) feed processing plants have been built with an annual output capacity of 140,000 tons. In addition, five processing plants are under construction in Shijiazhuan, Baoding and Jintai municipalities, and in Luancheng County. From last year until the end of March this year, they have produced and supplied more than 200 million jin of compound (mixed) feeds.

Hebei Province's livestock industry production began in 1978. Growth of the livestock feed industry has played a positive role in changing the composition of the province's livestock and poultry feed, and has promoted development of the livestock industry. Practice has demonstrated that use of compound (mixed) feeds instead of concentrated grain feeds not only lowers livestock and poultry production costs and increases both the commodity rate and commodity quality, but can also save large amounts of grain. The Tangshan Prefecture, Tangshan Municipality, Shijiazhuang Municipality, and Cangzhou Municipality, numerous units have resorted to use of compound (mixed) feeds to replace pig award grain, helping both livestock and poultry growth with a saving in grain and increasing enterprise earnings.

Livestock feed units everywhere in the province have been rather attentive about going down among the masses to investigate and study so that livestock feed formulation science will meet the needs of the masses. Lanfang Prefecture had specialized households make up a formula, which livestock feed units then used to process feed. Livestock feed units in Yuanshi County carried out a survey of the county's chicken raising households and key area households, and formulated feed formulas on the basis of the nutritional needs of chickens in promotion of chicken industry development. In the same county, commune member Zhao Guangting [6392 1683 0080] of Xihantai Brigadeused feed company provided compound (mixed) feed to raise 60 hens, which last year layed

12,045 eggs for a net profit of more than 570 yuan. Not long ago, he provided a briefing on his experiences in using compound (mixed) feeds in raising chickens to a conference of county scientists and technicians, which attracted serious general attention. As the building of the four modernizations develops and people's living standards gradually improve, people demand that the market provide more and better livestock and poultry products, so the livestock and poultry industries will have to grow a great deal. This will require, in turn, that livestock feed production keep apace. Right now many places in the province have not yet directed sufficient serious attention to livestock feed production, and their perception of the importance of compound (mixed) livestock feeds is insufficient. In many newly built livestock feed processing plants the equipment is rudimentary and the degree of mechanization very low. Product quality cannot be assured either. All this should arouse the serious attention of units concerned at all levels, and they should take action to find solutions.

9432
CSO: 4007/427

WINDING UP OF COTTON PLANTING REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 14 May 82 p 1

[Article by Economic Crop Department, Provincial Bureau of Agriculture: "Sowing of Cotton in Province Breaks 10 Million Mu Mark. Concerned Efforts to Fight Valiantly Against Drought"]

[Text] Hebei Province's cotton growing areas have triumphed over serious drought. As of 8 May, they had sown 10.16 million mu of cotton, or more than 92 percent of their cotton growing quota. Two prefectures and 44 counties have completed cotton planting plans, and other places are now winding up the job.

This year all levels of leaders have devoted extremely close attention to cotton sowing. Cotton peasant sentiment is at an all time high, and after making full preparations they began sowing in mid-April. Throughout the province 30,000 organizational cadres went down to communes and brigades to give specific guidance. The broad masses of cotton peasants made every minute count in an arduous and valiant struggle to make the most of soil moisture, promptly setting off an upsurge in combat against drought to plant seeds. As a result, the sowing of cotton this year was done 5 to 6 days earlier than last year, and 5 million my of "April seedlings" were assured. Cotton seedlings also sprouted well, more than 80 percent of them sprouting on 82 percent of cottonfields.

Now places that have not completed sowing are giving strict attention to fighting drought by dibbling seeds into the ground to bring sowing to a close in an effort to complete their cotton planting quotas. Places that have already completed their cotton planting quotas are devoting strict attention to timely inspection of soil moisture and seedling conditions, and to filling in gaps and transplanting, using every available means to assure full stands.

9432
CSO: 4007/427

HEBEI

INCREASE IN MILLET FARMING URGED

Shijiazhuang HEBEI RIBAO in Chinese 3 May 82 p 3

[Article: "Need to Give Serious Attention to Revival and Development of Millet Production"]

[Text] Millet tolerates drought and infertile soil. It is one of Hebei Province's major grain crops. It is grown over a very wide area. Except for a few flatland areas in the north, it is grown on a certain area everywhere in the province. Removal from millet of the stigma of a "low yield crop," and serious attention to millet production possess important significance.

I. Full Realization of the Importance of Reviving and Developing Millet Production.

1. Rapid restoration and development of millet production is a requirement for national economic development and a demand of the broad masses of people. In 1952, the province's millet growing area amounted to 26.14 million mu or 30.1 percent of the fall grain area. Output totaled 4.18 billion jin, 32.1 percent of total fall grain output. Subsequent to 1958, the millet growing area declined over the years to 8 or 9 million mu, and total output fell to about 1 billion jin, resulting in a very severe shortage of millet in cities and the countryside.

2. A look at Hebei Province's natural laws and economic laws demands revival and development of a certain area of millet. In Hebei Province, 9 out of 10 years are drought years, and during the past several years the drought frequency rate has become increasingly high. The grainfield area in the province assured of irrigation totals only about 30 million mu, which is half the grainfield area. In terms of soil fertility, organic content is also relatively low, less than one percent in most places. But millet is resistant to drought and tolerant of infertility; it is rather widely adaptable, and requires a small quantity of water. It is a surefire crop for infertile, arid areas that resists drought to ward off or rescue from disaster. Millet is rich in nutrients and has high economic value. Millet straw is rather rich in nutrients, aming it a fine fodder for livestock animals and its bran is a fine feed for hogs and poultry. Millet is easy to care for, tolerates storage, can be easily transported, and is suited

to war preparations and preparations against famine. These characteristics of millet imbue it with very great advantages for increased production in the arid areas of the province.

II. Several Major Problems in Current Millet Production

1. Crop patterns are inequitable. As a result of the influence of "leftist" mentality, the growing of a single crop, and regarding millet as a low yield crop the millet growing area shrank unreasonably in 1981, the province's millet growing area amounted to 8.88 million mu, between 3.12 and 6.12 milliln mu less than the area suited to its growing.

2. Few superior varieites of millet and no matching of varieties. Hebei has an abundance of millet varieties, there being no less than several hundred in the province as a whole. But the varieties are numerous, chaotic, and mixed; they are very much unmatched. Purification and rejuvenation of peasant varieties has not kept pace to the impairment of seed purity.

3. Little fertilizer and poor quality. Analysis by units concerned shows that for every 100 jin of grain produced from spring millet, 4.7 jin of nitrogen and 1.6 jin of phosphate has to be absorbed from the soil. At the present time little fertilization of the province's millet fields is done, and even some cases of "sanitary" [unmanured] fields have occurred. Since the sowing season for summer millet is a very short one, fertilizer is particularly inadequate to the impairment of yields.

4. Because sowing is frequently done each year in a slapdash fashion, skipped plants and breaks in furrows occur, and planting density tends to be scant.

5. Continuous cropping year after year, sloppy care, and serious disease and insect pest damage. Currently downy mildew does fairly serious damage to millet, the incidence of the disease being generally from five to 10 percent, or 20 to 30 percent in seriously infected fields. Damage from Chilo infuscatellus is also very severe, the plant pest rate being a general 15 percent, or 40 to 50 percent in seriously affected fields.

III. Problems to be Given Attention in the Revival and Development of Millet Production.

1. Elimination of the lopsided perception of "millet as a low yield crop." Numerous high yeild representative examples attest that in some areas millet can also be a crop that produces consistently high yields. In Hebei Provinces many areas have had yields of 1,000 jin per mu and large area yields of from 400 to 500 jin per mu.

2. Continued readjustment of crop patterns and equitable distribution of varieites. In view of millet's resistance to drought and tolerance of infertility, more millet should be grown in some dry and infertile hill and mountain regions, and dry and infertile plains areas should also grow

more so as to take fullest advantage of millet's increased yields. Places having the water resources can use summer millet as a fine crop for crop rotation. Use of millet as a rotational crop on cottonfields also produces very good results.

3. An effective job of purifying and rejuvenating existing fine varieties, popularization of existing fine varieites, and breeding of new varities. Statistics from provincial seed companies show that the millet varieites grown over a fairly wide area of the province in 1981 were: Qingdaolao, Lugu No 2, Laiwuxian, 7406, Jigu No 1 and Jigu No 2, Tieganhuang, Tieganzao, Henanniao, and Chaoxiangu. These should be extended to cultivation through an adaptation of general methods to specific situations.

4. Increased fertilization and close planting to get full stands, and to promote sturdy seedlings, sturdy plants, and large heads. Nowadays a stand of between 20,000 and 30,000 seedlings per mu of spring millet is rather good, and a stand of 400,000 to 500,000 is good for summer millet. Increases or decreases may be made on the basis of water and fertilizer conditions, and varieties. In fertilizing, organic fertilizer should be the key link and be mixed with a proper amount of chemical fertilizer, attention being given to a combination of nitrogenous and phosphate fertilizers.

5. Effective solution to prevention of disease (downy mildew) in spring millet, to prevention of lodging of summer millet, and to problems with smothering of seeds [218C 4750] in husks during the late stage.

6. For dryland millet the laws governing precipitation should be promptly applied to accumulate and preserve soil moisture. Autumn rains should be used in spring to assure the moisture conditions necessary for sowing. In order to triumph over drought during the emergence of seedlings and drought that sticks in the throat [0595 9126], the periods for sowing, heading, and full ripening should be adjusted in accordance with soil moisture conditions so that heading is done in the rainy season, and the milk ripe stage comes at the right time for drying of grain. Varieties should be selected according to the time they are to be sown, varities requiring a long period of time used for early sowing and varieties requiring a short period of time used for late sowing.

9432
CSO: 4007/431

BRIEFS

WIND, HAILSTORMS CAUSE DAMAGE--A number of areas of Hebei Province have recently been hit by successive wind and hailstorms, and the situation is rather serious in places. The provincial CCP Committee and government have made prompt arrangements for the struggle against natural disasters. They have issued a circular demanding that the disaster areas and the provincial departments concerned take effective action to fight the natural disasters and strive for a bumper harvest. At the same time they have organized four work teams consisting of cadres transferred from the provincial departments concerned. These work teams set out on 23 June for a number of counties and communes in the relatively severely affected prefectures of Xingtai, Shijiazhuang, Handan and Cangzhou, to comfort the masses on behalf of the provincial CCP Committee and government and ascertain the extent of the disaster. They will also help the local leadership to work well, brace their fighting spirits and actively launch the masses to crash-sow, resow where necessary, strengthen tending of the crops, and reduce the damage. They will do everything possible to help the masses to solve difficulties and strive for a good autumn harvest. [Text] [HK010451 Shijiazhuang HEBEI RIBAO in Chinese 24 Jun 82 p 1]

COTTON PLANTING QUOTA OVERFULFILLED--As of 3 May, Henshui Prefecture had planted a total of 1.41 million mu of this year's 1.4 million mu cotton planting quota for overfulfillment of quota. This prefecture's spring cotton planting not only covered a large area, but it was done quickly and well. More than 1.1 million mu of soil in the prefecture had to have moisture added for the sowing of seeds, and more than 4,956,000 cubic meters of crude fertilizer were spread, an average of 2.5 cubic meters per mu. On many cottonfields, chemical fertilizer, cake fertilizer, and phosphate fertilizer amounting to a total of 4,240 tons were spread. How a virtual ful stand of seedlings is growing on 470,000 of the 690,000 mu of cottonfields where seedlings have begun to grow. Cadres and commune members throughout the prefecture are now carefully checking on seedlings and filling in gaps, and loosening the soil to increase warmth in an effort to get full stands of sturdy seedlings in every cottonfield plot. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 10 May 82 p 1] 9432

CSO: 4007/423

CONFERENCE HELD ON DROUGHTS, FLOOD PREVENTION

SK191010 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 18 Jun 82

[Excerpts] According to our reporter, the work conference convened by the provincial people's government on droughts, flood prevention and waterlogging concluded 18 June. The conference emphatically pointed out: We should implement the principle put forward by the provincial CCP Committee on paying equal attention to drought combating and waterlogging control, conscientiously grasp the work of drought combating, flood prevention and waterlogging control and strive to reap an overall good harvest in agriculture.

The conference pointed out: Since the beginning of May, under the influence of a high pressure system above Baikal Lake, the province has experienced little rainfall, high temperatures and high winds. The rainfall has been 70 to 80 percent less than the corresponding period in a normal year. Temperatures have been 3 to 4 degrees higher. The ravages of the drought have become more serious and are expanding in all directions. As of 12 June, more than 37 million mu of land in 55 municipalities and counties were stricken by drought.

The conference demanded: We should make full use of the existing water conservancy work and give full play to the role of irrigation. We should focus on good crop seedlings and be committed to antidrought work to minimize losses from the drought.

The conference urged localities to accelerate the building of water storage projects in places without water sources. A tendency which warrants our attention is that some counties slacken their efforts to build water storage projects because they had much rainfall last year and soil moisture has been sufficient. Therefore, various localities should pay close attention to this problem and not fall under the influence of changing weather conditions.

The conference made an analysis of this year's flood situation according to the forecast and survey by meteorological and hydrological departments. In July most areas in the province will have 20 to 30 percent more rainfall than the corresponding period in a normal year. But the rains will be uneven, and there will be many torrential rains in some areas. Water volume of the mainstreams of Nenjiang and Songhuajing rivers will increase this year. Water volume of Heilongjiang River [words indistinct]. Relatively serious floods will probably occur on the Raolihe, Mulinghe, Wokenhe and Mudanjiang rivers.

The conference stressed in conclusion: It is an arduous and important task to combat drought, prevent floods and control waterlogging. CCP committees and people's governments at all levels should strengthen leadership over ideological, political and organizational work, establish and perfect a powerful and effective command system, do the work of combating drought, preventing floods and controlling waterlogging and strive to reap an overall bumper harvest in agriculture.

CSO: 4007/459

CONFERENCE HELD ON COMBATING DROUGHT, INSECTS

SK300936 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 29 Jun 82

[Excerpt] The provincial CCP Committee and the provincial government held an emergency telephone conference on 29 June, urging the whole party and all the people throughout the province to immediately go into action and spare no efforts to combat serious drought and insect pests, to resolutely carry on the struggle of combating drought and insect pests to ensure the growth of seedlings through to the end and to win a victory in this struggle. The conference was chaired by Comrade Wang Caoli, deputy governor. Comrade Wang Luming, secretary of the provincial CCP Committee and deputy governor, delivered a speech at the conference.

After elaborating on the achievements in the former stage of the struggle on combating drought and insect pests to ensure the growth of seedlings, the conference pointed out: This year drought and insect pests have occurred in our province with tremendous force and are spreading very rapidly. It is unprecedented in history. There are now 55 counties and cities threatened by drought throughout the province and the situation is worsening. According to the forecast by the meteorological departments, there will not be any heavy rainfalls before 5 July and the drought situation will be worsening. The disasters will be more serious. This year our province will experience a serious grass borer disaster and the situation will be even worse than in 1980 for it will cover a large area, will have a frightful density and will cause serious damage. Grass borers have appeared in our province's 53 counties and cities and 72 agricultural farms, covering 47.69 million mu of farmland. The disaster-stricken areas now reach 19.13 million mu.

Noteworthy is the fact that some cadres and the masses are afraid of difficulty and weary of combat work and have taken a passive and pessimistic attitude. If we fail to solve these problems rapidly and well, it will be impossible for us to win a victory in the struggle of combating drought and insect pests and killing weeds to ensure the growth of seedlings.

The conference urged: We must further mobilize the whole party and all the people to resolutely win a victory in this struggle.

CSO: 4007/459

BRIEFS

PROVINCE COMBATS DROUGHT, PESTS--Some 30,000 cadres and over 2 million commune members in Heilongjiang rural areas are now working on the farmland to combat drought and prevent grass borers. They have irrigated 3 million mu of fields and applied pesticide to 19 million mu of cropfields. This year Heilongjiang Province has dispatched nearly 10,000 motor-driven carts and 15,000 animal-driven carts to transport water and used some 28,000 barrels and operated 23,000 pumping wells to water fieldcrops and seedling beds to solve the water problem of some 100,000 mu of paddyfields. According to initial statistics, the province has utilized 70,000 sprayers and applied 15,000 tons of pesticide to farmland to control grass borers. [SK291057 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 28 Jun 82]

PREFECTURE COMBATS DROUGHT, PESTS--Songhuajiang Prefecture, Heilongjiang Province, has mobilized some 700,000 people to combat drought and insect pests. At present 7.78 million mu of insect afflicted farmlands have been tended. The disaster caused by insect pests in this prefecture has been basically brought under control. This prefecture has operated all pumping wells and made use of all available water resources to water 1.25 million mu of farm crops, easing the threat of drought. [SK01159 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 29 Jun 82]

SOYBEAN APHIDS--In Heilongjiang Province, Acheng, Bin, Wangkui counties and Jiamusi Municipality are suffering from soybean aphid pests. Investigations indicate that 72 to 93 percent of the soybeans are infested with aphids. There are 5 to 19 aphids on each soybean plant. Aphids have also been found in some green peppers, tomatoes, eggplants, and cucumbers in Harbin Municipality. [SK262239 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 25 Jun 82]

CSO: 4007/459

BRIEFS

ZHOUKOU PREFECTURE GRAIN PROCUREMENT--Zhengzhou, 26 Jun (XINHUA)--As of 20 June, Henan's Zhoukou Prefecture had procured 410 million jin of marketable grains, hereby overfulfilling procurement plans for summer crops. The prefecture had reaped a bumper wheat harvest from its 7.2 million mu of wheatfields, with the total output reaching 3 billion jin and increasing by 10 percent over that of 1981. [OW021313 Beijing XINHUA Domestic Service in Chinese 0255 GMT 26 Jun 82]

CSO: 4007/459

BRIEFS

HUBEI SUMMER WHEAT HARVEST--Wuhan, 5 Jun (XINHUA)--Hubei Province in central China reports that the output of winter wheat and other grain crops to be harvested this summer are expected to exceed last year's by more than 10 percent, while rapeseed yield is estimated to grow more than 20 percent. Harvesting of rapeseed has just been completed in the province and the wheat crop is being gathered and threshed. The good summer harvest is attributed to the adoption of the job responsibility system by 99 percent of the production teams, careful selection of seeds, increased use of chemical fertilizer and control of plant diseases, according to the provincial agricultural department. Many other provinces in the southern parts of China are gathering good wheat harvests but a number of northern provinces have been threatened by dry spells. [Text] [Beijing XINHUA in English 0755 GMT 5 Jun 82 OW]

CSO: 4007/430

SPRING FARMING UNDER DROUGHT CONDITIONS EXPLAINED

Nanjing XINHUA RIBAO in Chinese 4 May 82 p 2

[Article: "Xuzhou Prefecture People Pitch In In the Struggle Against Drought To Win a Bumper Summer Harvest and Assure Full Stands From Spring Sowing"]

[Text] For days on end the broad masses of cadres and people in Xuzhou Prefecture have urgently mobilized to pitch in to struggle against drought to assure harvests of wheat, barley and naked barley, and to assure full stands of spring sown crops.

This year the volume of rainfull in Xuzhou Prefecture has been more than one-third less than during the same period in most years. This plus the rise in temperatures during recent days has meant an increasingly serious drought situation. More than 2 million mu of wheat, barley, and naked barley in the prefecture have been seriously drought-striken, and spring sown crops such as cotton and corn have also been seriously threatened. Faced with drought, leaders of all levels in Xuzhou Prefecture have taken vigorous action. They have led the broad masses of cadres and people to pitch in to struggle against drought. Feng County transferred more than 170 organization cadres under the leadership of officers in charge at the county CCP Committee and county government to help fight drought in 7 communes where the drought situation is particularly serious. Throughout the county all commune cadres have assumed individual responsibility for tracts, brigade cadres have assumed responsibility for production teams, and production team cadres have assumed responsibility for machines, for pump wells, and for field plots. Daily more than 7,000 pump wells ahd more than 2,800 water pumps in the county join in the fight against drought. In order to tap water sources fully and expand the irrigated area, they have aroused commune members to use more than 4,400 hand pumped wells that use neither petroleum fuel nor electric power. Right now in Pei County, 280 electro-mechanical irrigation stations, more than 5,000 wells, and 100,000 horsepower have all been put to use to combat drought. In Tongshan County the broad masses of cadres and people have overcome a psychology of waiting for rain to fall, daily sneding out more than 100,000 people to water the wheat and do rush planting. Faced with a shortage of surface water, while raising water and diverting water, Ganyu County has adapted general methods to local situations for large-scale digging so that river water and pond water will flow downward from one level to another, doing everything possible to increase sources of irrigation water. In the hilly region of this county, 10 communes have already dug ditches so that pond water will flow from one level to the next at more than 600 places. They have intercepted stream flow at more than 200 places. Now the county is watering 400,000 mu of wheat, barley, and naked barley. As of 28 April, the prefecture was combating drought to irrigate more than 1.5 million mu of wheat, barley, and naked barley, to sow more than 940,000 mu of cotton, 300,000 mu of spring corn, and more than 300,000 mu of peanuts.

9432
CSO: 4007/423

PROVINCIAL COTTON GROWING AREAS COMPLETE PLANTING

Nanjing XINHUA RIBAO in Chinese 9 May 82 p 1

[Article: "Province Completes Direct Cotton Sowing Quota on Time"]

[Text] The broad masses of cotton-growing peasants in cotton growing areas throughout the province have adhered to cotton growing plans. While giving attention to the propagation of cotton seedlings for transplanting, they have also completed on time their direct cotton planting quotas. Cotton has been directly planted across an area of 5.94 million mu.

This year, as a result of the perfection and consolidation of cotton production responsibility systems, enthusiasm among cotton peasants for the growing of cotton is high. The pace of cotton planting has been rapid, quality good, the sowing season concentrated, land preparation done painstakingly, and base fertilization fairly adequate. In most parts of Nantong Prefecture, green manure was buried to serve as base fertilizer in directly planted cottonfields, and nightsoil and phosphate fertilizer was also added to some. In Yancheng Prefecture, winter plowing and spring cultivation of cottonfields has been done well, and for most fields chemical fertilizer has been used as the base fertilizer. The cotton-growing peasants have sown their seeds in patterns. In many places they have used string to mark rows; seeds have been planted evenly and there has been no cracking of soil around plants.

Early sown cotton has already reached a full stand, and some shoots are now pushing through the soil. Everywhere seedling stage care is being given and the "five rush" jobs in advance of the wheat harvest are being done.

9432
CSO: 4007/423

NEW EMPHASIS GIVEN ORGANIC FERTILIZER PRODUCTION

Conference Held

Nanjing XINHUA RIBAO in Chinese 7 May 82 p 1

[Text] Adherence to organic fertilizer as the key link, and taking the road of agricultural development that fits in with the situation in Jiangsu Province were the main topics of discussion at the provincial fertilizer work conference recently convened by the provincial government in Lianshui County. The conference required all leadership comrades on the agricultural front to make clear this guiding mentality and to treat organic fertilizer production as a strategic task to produce genuine results.

Comrade Zhou Ze [0719 3419] made a speech at the meeting.

Prefecture (or municipal) and county officers in charge who attended the conference made on-site inspections of fertilizer production in some communes and brigades in Lianshui County. They listened to briefings on the experiences of representative units; they linked realities of individual places in conscientious discussion; and they put forward some ideas about building up organic fertilizer.

The conference affirmed the achievements and experiences of Jiangsu Province in building up organic fertilizer, and it analyzed some of the problems manifest in some places in recent years from neglect of organic fertilizer production. Everyone evinced marked interest in the successful experience of Lianshui County in having proceeded from local realities to undertake water conservancy, the growing of green manure, and improving paddy rice. After more than 10 years of unflagging efforts, Lianshui County, which has always had many disasters and low yields, have brought about the irrigation of most of its farmland and has produced a forest network, while at the same time growing green manure on a large scale. It has transformed drylands to wetlands and has effectively changed infertile saline-alkaline soils. The soil has become more fertile the more it is farmed; yields have become increasingly high; and grain output has increased for 7 consecutive years. In the 4 year period between 1978 and 1981, output increased by 279 million jin, a rate of incremental increase averaging 10.8 percent. This was achieved, moreover, with fairly low energy consumption for high benefits and fine economic results. At each site everybody saw not only large areas of vigorously growing winter green manure, but also row upon row of mud and grass composting ponds filled with fertilizer. They also saw methane pits in current use. Comrades at Yancheng Prefecture conducted briefings on their experiences in the adaptation of general methods to local situations in setting up an equitable crop rotation system for a combination of nurture and use to build up soil fertility in order to win increased grain and cotton yields. These briefings also provided everyone with much inspiration. As a result of soil surveys, Wu County revealed existing problems with soil fertility and found the reason why agricultural production fluctuated without moving forward.

Through their discussions, delegates derived the following consensus: Production of organic fertilizer bears on soil improvement, build-up of soil fertility and maintenance of consistently high yields. It bears on the internal economic structure of agriculture, on equitable crop distribution patterns and the farming system, on the agricultural ecological balance, and on economic benefits derived from agriculture. It is a major matter of significance for the situation as a whole, and this significance cannot be underestimated. Many comrades said that it is necessary to understand anew the importance of organic fertilizer production and consciously to put into effect a program of "three paramounts" in soil and fertilizer work, persevering in taking the road of the paramount of organic fertilizer in development of agriculture.

The conference drew on collective wisdom and absorbed all useful ideas. It studied how to imcorporate the build up organic fertilizer, proposing diverse channels for increasing fertilizer sources such as large-scale growing of green manure, developing a livestock industry, increasing barnyard manure, raising the "three water plants," growing duckweed, establishing duckweed fertilizer, storage, composting grass and mud in ponds, piling compost at high temperatures, promoting use of methane gas fertilizer; and production of micro-organism fertilizer, etc. All successful past experiences should be summarized and promoted. But one of the most fundamental things is correcting the guiding mentality of leaders at all levels to place this work in its proper position, to formulate rules and diligently carry them out, to establish and perfect fertilizer production systems of responsibility, make overall arrangements on crop patterns, and study and solve pertinent policy problems. The conference hoped that units concerned would further establish thinking in which agriculture is the foundation, strengthen cooperation, and promptly solve problems in the production of organic fertilizer.

The conference called upon cadres and masses throughout the province to rally their spirit, take advantage of present favorable opportunities, and go in for organic fertilizer production in a big way, and at the same time take a firm grip on all links in agricultural production, exert great efforts to win an all-around bumper harvest in agriculture this year, and also create conditions for continued development of agricultural production.

Role of Organic Fertilizer

Nanjing XINHUA RIBAO in Chinese 7 May 82 p 1

[Editorial: "Insist on Taking Organic Fertilizer as the Key in the Development of Agriculture"]

[Text] Fertilizer is food for farm crops. Increased fertilization with organic fertilizer to nurture soil fertility is a major way in which to develop agricultural production. Several years ago, the provincial CCP Committee proposed a program of "three key links" in soil fertilizer work. This was a combination of organic and inorganic fertilizer with organic fertilizer being the key link; a combination of barnyard manure and commercial fertilizer with barnyard manure being the key link; and a combination of soil nurture and soil use with soil nurture being the key link. The central idea was the key link of organic fertilizer. The situations reported by all jurisdictions attending the provincial fertilizer work conference have shown that all places that have adhered to the implementation of this program have been able to achieve more soil fertility, the more farming done, fairly consistent and high yields, and fairly low farm costs. In those places that have ignored or acted contrary to this program, the situation has evolved in just the opposite direction. Practice has shown this program to be consistent with agricultural production's objective laws, and to be correct. In the future, we must unswervingly continue to carry out a program in which organic fertilizer is the key link so that the province's agriculture will take the path of small consumption of energy, good ecological environment, high economic gains, and both consistent and high yields.

Use of organic fertilizer to nurture soil fertility is a fine tradition in the province's agriculture. After liberation, and particularly during the late 1960's, organic fertilizer saw fairly large growth, and the masses accumulated abundant experience through practice in the building of soil fertility. Take green manure as an example. The area planted to it increased and the regions in which it was grown expanded. It played a major role in improving low yield soils, in "changing drylands to wetlands," in "changing waterlogged fields to drylands" and in promotion of the "three crop system." After many years of effort, a rational crop rotation system suited to circumstances in various places gradually developed; results of the development of farmland water conservancy construction were consolidated, soil fertility was increased; and development of agricultural production as a whole was advanced.

However, since the mid-1970's, with the steady increase in chemical fertilizer, the importance of organic fertilizer gradually came to be overlooked by some people. Some places either consciously or unconsciously lost the fine tradition of the key link of organic fertilizer. The green manure area greatly declined and a striking decrease occurred in the use of organic fertilizer. This brought about a proportional imbalance between organic and inorganic fertilizer. In some places stiffening of the soil, deterioration of fertility, and a decline in cultivability of the soil occurred. Were this state of affairs to continue unabated, very possibly agricultural production might fall into the predicament of high energy consumption, high costs, low efficiency, and low returns, and this would arouse a high degree of serious attention all along the frontline of agriculture. Our emphasis today on the key link of organic fertilizer derives from the correct conclusion reached after having summarized both positive and negative experiences.

To say that farming is inseparable from organic fertilizer is a principle that everyone understands. China's agricultural production has gone on for several thousand years without let up, demonstrating that our ancestors understood nurturing and preserving soil fertility. Then, why have some comrades forgotten this tradition and neglected organic fertilizer production? This is because their perception of the importance of organic fertilizer has halted in the perceptual stage; they have no high degree of rational perception of its strategic significance. Chemical fertilizer is very important but one must have a definite proportion of organic fertilizer to serve as a base fertilizer; only then can chemical fertilizer be fully effective. If one fertilizes solely with chemical fertilizer with no admixture of organic fertilizer, he taps the soil's reserves and such a situation cannot long endure. Agriculture is a century-spanning enterprise. To dig up the wealth that our ancestors have layed down, and to plunder our descendents' ricebowls positively will not do.

Scientific agricultural experiments and practice everywhere have also further demonstrated that continued taking of organic fertilizer as the key link helps steadily increase soil fertility levels, helps consistently high yields in agricultural production, helps increase benefits from chemical fertilizer in increasing yields, and also helps increase economic benefits from agriculture. Adherence to the paramount of organic fertilizer is positively not an expedient measure, but is rather a program for vigorous development of agriculture to create wealth for posterity, requiring perseverance over a long period of time.

Adherence to taking organic fertilizer as the key link requires implementation of the various programs and policies that have followed from the 3d Plenary Session [of the 11th Party Central Committee], building and perfecting fertilizer production responsibility systems, and making it a major ingredient in the perfection and stabilization of agricultural production responsibility systems.

Adherence to taking organic fertilizer as the key link requires linking it to the readjustment of agriculture and to grain, cotton, and oil bearing crop production as well, with the formulation of regulations about building organic fertilizer, arranging crop patterns in an overall way while taking all factors into account, and while assuring no further reduction in the grain growing area, to adapt general methods to specific situations to establish equitable crop rotation systems so as to achieve a combination of soil use and soil nurture.

Adherence to taking organic fertilizer requires consideration of local resources to develop diverse channels for the production of organic fertilizer. Farming, raising [of livestock or aquatic products], gathering, or manufacturing all have a special place in the production of organic fertilizer. It is necessary energetically to develop herbivorous animals to advocate green storage of fresh hay, to return digested materials to the fields, and take the path of farming and livestock raising in combination. Growing of the "three aquatic plants," propagating duckweed, composting grass and mud in ponds, high temperature composting, promotion of methane pits, and return to the fields of stalks and stems should continue to be advocated, and fresh experiences created as well.

Adherence to taking organic fertilizer as the key link also requires that in the movement for scientific farming, popularization of and indoctrination in a scientific understanding of foil fertility must be thoroughly done. Soil surveys should be undertaken conscientiously, serious attention given to demonstrations, and application of soil survey results promoted. In addition, scientific study and technical promotion work on soil fertility should be strengthened, traditional agriculture and modern science and technology combined.

Adherence to organic fertilizer as the key link requires the carrying forward of a spirit of self-reliance and arduous struggle. Organic fertilizer production requires great efforts. Unwillingness to work hard and sweat, thoughts of avoiding work, and fear of hardships will mean that this endeavor cannot be carried out successfully.

Adherence to organic fertilizer as the key link positively is not to say that chemical fertilizer production can be slackened. Right now some chemical fertilizer plants do not operate at capacity. All levels of planning units and materials allocation units should equitably distribute energy to assure normal production of chemical fertilizer. At the same time it is necessary to apply scientifically and rationally chemical fertilizer to increase the chemical fertilizer utilization rate. A great potential lies in this.

The crux of adherence to organic fertilizer as the key link lies in the leadership straightening out the guiding mentality and truly putting it on their daily agendas, solidly studying it, and implementing measures. They should use representative cases as examples, investigate and study, and solve real problems. Now is a golden time to do a lot about organic fertilizer. We must take a long-range view and take firm hold of the present, rapidly organize action, and start an upsurge of mass enthusiasm for acting on organic fertilizer to win an all-around bumper harvest in agriculture this year, and to create a new situation for flourishing development of the province's agriculture.

9432
CSO: 4007/424

BRIEFS

YANGZHOU PREFECTURE CROPS--Yangzhou Prefecture, Jiangsu reaped an all-round good summer harvest. The total output of the three wheats in the prefecture's nine counties reached an all-time high of 2.82 billion jin, an increase of more than 380 million jin or 1.5 percent over the last year. [OW041330 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 24 Jun 82]

CSO: 4007/459

COURAGEOUS STRUGGLE AGAINST DROUGHT URGED

SK160437 Changchun Jilin Provincial Service in Mandarin 1100 GMT 15 Jun 82

[Station commentary: "We Must Not Be Disheartened in Face of Drought"]

[Excerpt] Some counties, communes and brigades in our province are suffering from an extremely serious drought, which is growing worse and worse. There are two prevailing attitudes toward the natural diaster. One is not to lose heart in face of the serious disaster and to brave the elements to strive for a good harvest. The other attitude, which is common in a minority of cadres and masses, is to become pessimistic and to feel disheartened. They even (?abandon the plow) and are trying to look for new means of livelihood. So far this has not become the main trend of the situation, but it nonetheless warrants our complete attention. At present, antidrought work is still in a critical stage. Instead of wavering we must evince increased confidence, concentrate all available strength to combat the disaster and exert utmost efforts to minimize a reduction of grain output. We must educate the cadres and peasants to overcome the natural disaster by relying on the party and the collective.

Previously, party committees and government at all levels organized materials, labor power and vehicles to give disinterested assistance to communes and brigades in the disaster areas. Bringing into play the strength of the collective economy, the communes and brigades have executed replanting without a hitch. It is dishonorable to walk out on the collective in face of disaster. Moreover, it is inadvisable. History has shown that it is impossible for a single household to withstand the elements. In this sense, it is true that a disaster is dreadful. But what is more dreadful is losing one's heart in overcoming the disaster and the centrifugal tendency of abandoning the collective. Every party member and cadre must increase his confidence and lead the masses to successfully overcome the disaster and provide disaster relief.

CSO: 4007/459

BRIEFS

COUNTY STRENGTHENS FIELD MANAGEMENT--Hailong County, Jilin Province, urges peasants to strengthen paddyfield management and to combat drought and insect pests. Rice seedlings are growing well in this county despite drought and insect pests. As of 23 June this county had weeded 300,000 mu of paddyfields and applied pesticide to some 100,000 mu of fields plagued by insect pests. [SK250759 Changchun Jilin Provincial Service in Mandarin 1100 GMT 24 Jun 82]

CSO: 4007/459

EFFORTS TO PLANT CROPS DESPITE DROUGHT SKETCHED

Shenyang LIAONING RIBAO in Chinese 28 Apr 82 p 1

[Article: "Provincewide Upsurge in Fight Against Drought For Planting. 11.55 Million Mu or One-Third the Area to be Planted Already Sown"]

[Text] Spring farming and sowing in Liaoning Province has experienced an upsurge in the midst of a struggle against serious spring drought. Statistics as of 23 April show an 11.55 million mu area, or one-third the area to be planted, already sown. This includes Tieling Prefecture, where soil moisture conditions are fairly good, and Shenyang Municipality in both of which the pace of sowing has been rather fast. In the cities of Liaoyang, Anshan, Fushun, and Yingkou, plnating has been done either more rapidly than or equally rapidly as during the same period last year. In some communes and brigades, the planting of cereal grain crops has already been completed, and planting of cotton and peanuts has begun.

Ever since last winter, an overwhelming majority of prefectures throughout the province have had virtually no snow, and though a little rain has fallen several times since March of this year, the quantity of rainfall has been very small and its distribution very uneven. Now the drought situation is spreading very rapidly and the drought area gradually expanding. During March and April, except for Dandong Municipality, the drought area has extended to the eleven remaining municipalities and prefectures in the province. As of 23 April the area seriously striken with drought covered an area of 17 million mu. In Chaoyang Prefecture for the more than 30 months from the fall of 1979 until 23 April this year no soaking rain has fallen. The spring drought in Dalian Prefecture has been the worst in the 77 years since meterological data has been recorded. Everywhere the broad masses of rural cadres and commune member masses have struggled against the spring drought. Whenever it has been possible to rush plant while soil moisture has been sufficient to support growth, they have rush planted, and whenever it has been possible to fight drought to plant, they have fought drought to plant. Another mu planted is another mu. In Chaoyang Prefecture where the drought situation is serious, 841 prefecture and county organization cadres were formed into a work team to fight drought. Led by comrades in charge at the Prefecture CCP Committee and government administrative offices, they went into the frontline of production, sorted out matters and gave tailored guidance. The zeal of the broad masses of commune members to fight drought is high. In the three municipalities and prefectures of Chaoyang, Jinzhou and Dalin, almost 1.3 million workers, more than 1,000 motor vehicles, 4,000 tractors, and more than 22,000 animal-drawn carts daily join the fight against drought to plant. Garrison forces in Jin County have also sent out 700 officers and men to join in the fight against drought to plant.

Right now the dominant problem in spring planting and production is the extremely uneven pace of planting everywhere as a result of the drought. In some places the pace of planting is slow, and they have planted only 20 or even only 10 plus percent of what they had planted during the same period last year. Because of the decline in soil moisture content as a result of the enduring drought, plus the high temperatures and strong spring winds, unless the mentality of waiting for the heavens to rain is overcome and rush planting to take advantage of what soil moisture is available emphasized in combat against drought to plant, there is danger that the farming season will be missed.

9432
CSO: 4007/431

DEEPER UNDERSTANDING OF RESPONSIBILITY SYSTEMS URGED

SK240321 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jun 82

[Excerpt] The Hulun Buir League CCP Committee recently issued a decision, urging cadres at all levels throughout the league to continuously enhance the people's understanding of implementing all kinds of production responsibility systems and, through practice, correctly handle the relations between unified planning and fixing responsibility by contract in an effort to consolidate and improve the production responsibility systems. After universally implementing various forms of production responsibility systems, a gratifying situation in which the grain output has increased and the commune members have received more income has appeared in the rural areas of Hulun Buir League. However, due to the restraint of the leftist phenomenon in the past, many people have failed to completely understand why we should implement various forms of production responsibility systems in rural areas. Some grassroots cadres have maintained that the implementation of the two responsibility contract systems is just an expedient measure to enable the people to dress warmly and to eat their fill. They have failed to exert all their strength to implement the two responsibility contract systems to serve the wishes of the people. In view of this, the Hulun Buir League CCP Committee recently held an enlarged standing committee meeting and, by adopting the method of analyzing typical cases, organized the banner and municipal principal leaders of the rural areas attending the meeting and all participants concerned to jointly examine, listen to and discuss the exemplary cases of the league's 14 units which have implemented all forms of production responsibility systems, to sum up their experiences to find out people's ideological gaps and to unify their thinking. All participants held that regardless of what forms of production responsibility systems are implemented in rural areas, the nature of the basic means of public ownership systems of production, including the land ownership system will not be changed for a long time and that all responsibility systems must be continuously improved through practice.

CSO: 4007/459

BRIEFS

WEATHER FORECAST--Affected by a cold spell moving toward Nei Monggol from the Mongolian People's Republic, the central and eastern parts of Nei Monggol region will have thundershowers 20-23 June. The temperature will drop suddenly. This will adversely affect livestock production. The regional meteorological observatory urged all localities to make preparations for this. [SK201036 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Jun 82]

LIVESTOCK BREEDING--Livestock breeding in Nei Monggol region develops rapidly thanks to the responsibility system and good climate. At present, some 10,174,000 head of young animals have been born, an increase of 932,000 head over that of the corresponding 1981 period. Some 1,119,000 more head of young animals survived than in last year. [SK271056 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Jun 82]

REGIONAL WHEAT--The 4.8 million mu of wheat in Ulanqab League in Nei Monggol region is growing very well. As of 10 June, about 450,000 labor forces had joined in field management, 4.8 million mu of farmland had been plowed, 53,000 mu had been fertilized and 127,000 mu had been irrigated. [SK181100 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 17 Jun 82]

NEI MONGGOL LIVESTOCK RAISING--Hohhot, 21 Jun (XINHUA)--Nei Monggol autonomous region has since last July increased its livestock by 9.5 million head, a rise of 2.7 percent or 1.11 million head more than in 1981, according to figures by the region's animal husbandry department. The figures indicate that the livestock survival rate was 93.4 percent. Compared with 1981, 300,000 more head of livestock survived and the miscarriage rate dropped 50 percent. In addition, 300,000 head of improved strain and breeds were added. Last year, the department said, the region harvested 3,315 million tons of fodder, on top of 250,000 tons of silage and 30,000 tons of concentrated fodder and built 2.73 million livestock sheds and paddocks, together ensuring that the animals would survive the hard winter. [Text] [OW221327 Beijing XINHUA in English 0822 GMT 21 Jun 82 OW]

CSO: 4020/143

STEADY INCREASE IN RICE YIELDS REPORTED

Yinchuan NINGXIA RIBAO in Chinese 12 Apr 8] p 2

[Article: "Yinchuan Prefecture's High Rice Yields Last Year Awarded Science and Technology Promotion Award. The More Scientific Farming the Greater the Benefits. Paddy Rice Yields Per Unit of Area Continue To Climb"]

[Text] Rice yields last year from the 710,000-mu Huang He diversion irrigation area in Yinchuan Prefecture averaged 975 jin per mu (customary mu), and in 5 of the 9 counties (or suburbs) where the growing of rice is concentrated, yields averaged more than 1,000 jin per mu. Rice yields from an area that amounts to only 6 percent of the total area sown to grain in the prefecture accounted for 29 percent of the prefecture's total grain output. This new agricultural development was awarded the State Agricultural Commission and the State Science Commission's agricultural science and technology promotion award.

In the immediate post-Liberation period, rice yields from the prefecture's Huanj He diversion irrigation area averaged only somewhat more than 280 jin per mu, and were as low as 178 jin. During 8 of the past 9 years, however, except during 1976 when outputs were reduced as a result of serious natural disasters, rice output has steadily risen. This fully demonstrates the importance of scientific farming.

Formerly the Huang He Diversion irrigation area had always scattered "rice in waves," but in 1958 research units experimented with the transplanting of rice seedlings, and during the subsequent 9 years they accumulated experiences with success and failure through practice. By 1966, the transplanted rice seedling area amounted to 150,000 mu. After 1970, a new technique of rolled seedlings (transplanting of small seedlings with soil attached) was promoted to solve the contradiction between the slow development of seedlings propagated in water and the shortness of the season for transplanting seedlins. The transplanted area rapidly expanded, and by 1979 transplanting of rice came to be done virtually everywhere. During the past several years some places have practiced the digging of seeds. Resultant yields have been no less than from the transplanting of seedlings, and economic benefits are rather good.

During the early 1950's, mostly local white husk large paddy was planted, but it was susceptible to rice blast and outputs were both low and inconsistent.

Ever since 1956 all areas have promoted fine varieties such as Jingzu 107, Qingsen No 5, Guoguang, and Gongwen No 12 and No 10. Beginning in the 1970's long growing, disease resistant, high yield fine varieties Jingyin No 39, Aifeng No 2, Tianjin Zaofeng began to be introduced, and Ninggeng No's 3 and 4 were bred. With each replacement and promotion of a variety, rice outputs rose substantially. Now virtually nothing but fine varieties of rice are grown.

In the Huang He diversion irrigation area, saline-alkaline soil and wet low-lying soil exists over a fairly wide area, to the serious detriment of increases in rice output. For many years all jurisdictions have energetically dug drainage ditches to lower the water table, have grown green manure, and have gradually come to fertilize with a mixture of nitrogenous and phosphate fertilizer in a sensible way for steady improvement in the soil and gradual increase in its fertility.

Scientists and technicians and the broad masses of commune members in rice growing areas have also devoted much effort to intensive farming and to the eradication of diseases and weeds. Rice blast, Bakanae disease, and bacterial blight are the three major diseases in the prefecture's rice growing areas, and they have now been substantially brought under control. Barnyard grass, sanlingcao [0005 2789 5430], and yanzicai [4190 1311 5475] are the three major weed pests in the rice producing areas of the prefecture. Striking results in their eradication have been achieved with herbicides, use of which is being steadily expanded and promoted. Now, farm scientists and technicians and the broad masses of cadres and commune members are in process of conscientiously summarizing experiences in bumper rice yields in order to further develop rice production in an effort to provide both city and country people with more and better rice.

9432
CSO: 4007/425

INCREASED FISH PRODUCTION URGED

Yinchuan NINGXIA RIBAO in Chinese 26 Apr 82 p 1

[Article by Commentator: "Genuinely Strengthen Leadership to Give Attention to Fishing Industry Production"]

[Text] During recent years, output of fish varieties has increased year after year in Yinchuan Prefecture to bring an end to the situation of fluctuation and decline. Nevertheless average per capita fish output in the prefecture as a whole remains very low, and the problem of getting enough fish to eat is still a conspicuous one. For this reason, the hastening of fishing industry development and reestablishment of the prefecture as a land of fish and rice remains an urgent requirement for the broad masses of people in the prefectur's cities and countryside.

The key to increase in fishing industry output lies in improved understanding and strengthened leadership. We must fully recognize the major importance of accelerated development of the prefecture's fishing industry production for fullest development for use of the prefecture's natural resources, for making the prefecture's rural economy prosper, for enlivening markets, and for improving the livelihood of urban and country people in the prefecture. For this reason, all levels of leadership, particularly county CCP committees and county governments should devote serious attention to fishing industry production in the same way as they devote serious attention to grain production, and place fishing industry work on their important daily agenda, devoting attention to it several times each year. A single leadership cadre should be made primarily responsible for managing this work, and he should go down into the frontline of fishing industry production to investigate and study, and to give prompt help for solution of genuine problems. Comrades in aquatic products and water conservancy units should arouse their spirits, overcome hardship and work hard, becoming active staff officers for CCP committees and governments for the organization of fish raising tasks.

Mass enthusiasm for the raising of fish is currently very high. All levels of leaders and units in charge must do a good job in every respect so that mass enthusiasm for the raising of fish will be brought into full play. One, they should solve problems about water surface use rights. They should first divide up the water surfaces on the basis of ownership, those owning them being responsible for working them. Water surfaces belonging to communes and brigades, should be worked by the collective, and scattered water surfaces not readily workable by the collective may be assigned to commune member household for working. However, individuals may not rent them or sell them to others. Water surfaces in dispute should have their ownership promptly and equitably decided so that fishing industry production will not be imparied. Two is good organization of fry supply. Each county is to gradually establish fish breeding farms. Existing state fishery farms should diligently tap potential, doing everything possible to breed more fry, and collective fishery farms having the conditions should also be organized to breed fish fry to satisfy, insofar as possible, the large scale requirements for fish fry of individuals and of fishing units. Third is to supply technical guidance in the raising of fish to fish raising units and individuals who lack knowledge of such techniques by running training classes and by making the rounds to give instruction. Fourth, is reorganization in coordination with public security units of fishing industry production order, dealing severely with those who seriously damage fishing industry production. Fifth is help to state owned and collective fish raising units in the establishment and perfection of various forms of production responsibility systems for continued solution to the problem of "eating out of a large common pot."

9432
CSO: 4007/430

PREFECTURE ISSUES EMERGENCY DROUGHT NOTICE

Jinan DAZHONG RIBAO in Chinese 3 May 82 p 1

[Article: Yantai Prefecture Takes Emergency Action to Fight Drought and Assure Spring Planting. Drought Situation Continues to Develop. Spring Sowing Reaches Critical Time"]

[Text] The drought situation in Yantai Prefecture continues and the fight against drought for spring planting has reached an extremely urgent and critical time. In order to insure that spring planting is done on time, the Prefecture CCP Committee and government administrative offices have issued an emergency notice requiring that the entire party take action and that all the people mobilize to fight drought and assure spring sowing. The notice provided for four measures:

1. From the Standing Committee and deputy commissioners of the Prefecture CCP Committee to principal leaders in the CCP and government of all counties and municipalities and comrades in positions of responsibility in all prefecture and county departments, a clear division of labor is to be made and responsibilities clearly assigned for rapidly leading the broad masses of cadres into the frontlines of the fight against drought, sparing no effort in endeavors to fight drought and do spring planting.

2. Immediate organization throughout the prefecture of all vehicles that can move (10,000 motor vehicles) for the hauling of water to fight drought. Vehicles under the jurisdiction of the prefecture and those belonging to Yantai municipal enterprenurial enterprise units are to be organized centrally by the Prefecture CCP Committee and government administrative offices. County and municipal vehicles are to be the responsibility of county and municipal CCP committees for organization. Vehicles belonging to garrison forces and central government, provincial, or prefectural entreprenural units may be locally requested for use. Locations, units, tasks and times should be set for all vehicles engaged in the fight against drought, and specialists are to go to sites to take command. In rural villages all tractors are to be used for hauling water and none may be used for commercial hauling.

3. Every available means is to be used to tap potential and to use petroleum where it will do the most good. Within distribution quotas established by the state, all petroleum in storage should be used unstintingly during the present circumstances to fight drought. When there is petroleum in storage that is not put to use to the impairment of the fight against drought or delay in spring planting, those responsible will be investigated and responsibility fixed. At the same time it is necessary to give attention to conservation of petroleum.

4. Increase in spring sowing measures to assure quality of spring sowing. One mu planted is 1 mu planted, and 1 mu planted is 1 mu that produces. There can be positively no sowing of seeds on parched land. In places where the drought situation is particularly severe, a good job of growing corn seedlings should be done and preparations made to transplant them. All counties, communes and production brigades are to make unified plans pertaining to water resources, with centralized allocation for use.

The Yantai Prefecture CCP Committee and government administrative offices have required leadership comrades at all levels of CCP Committees and government throughout the prefecture to give close attention to development of the drought situation, to have a full understanding of progress in fighting drought to do planting, to intensify direction and control, to learn about new circumstances on time, and to solve problems that appear.

9432
CSO: 4007/431

FISH BREEDING IN RESERVOIRS CONTINUES TO DEVELOP

Chengdu SICHUAN RIBAO in Chinese 13 Apr 82 p 1

[Article by SICHUAN RIBAO correspondent: "Fish Breeding in Reservoirs Continues To Develop in Our Province--Fish Output Increased to 13,580,000 Jin or 27.6 Percent Over the Previous Year"]

[Text] Fish breeding in reservoirs continues to develop in our province. Last year, the total fish output reached 13,580,000 jin, a net increase of 294,000 jin or a 27.6 percent increase over the previous year. The average per-mu output was increased by 2.95 jin; the average output value per worker and staff member increased by more than 240 yuan; and the water surface utilization rate reached 83 percent.

Fish breeding in reservoirs is an important feature in the comprehensive use of reservoirs and the development of economic diversification. Since last year, the water conservation departments have conscientiously carried out the policy of giving benefits to those who have invested in the repair and upkeep of reservoirs. They also recognized the rights of ownership and administration by these investors, firmly supported the system of unified control over both water and fish by establishing organs at various levels, and provided more active leadership over fish breeding. The introduction of the system of responsibility for production in various forms suitable to the local conditions has greatly aroused the enthusiasm of workers and staff members in fish breeding.

The water conservation administration departments at various levels also organized the fishery personnel to learn from the advanced units, invited specialists and technicians to give on-the-spot lectures, and held short technical training courses for the reservoirs' technical personnel in order to improve their technical skill in feeding and fishing. Thus on the basis of a sustained increase of output in the past 2 years, new achievements have been made in fishery in the reservoirs in the province, and a number of typical high-yield units have emerged.

At present, the reservoir administration units in various localities are stepping up their work in fry breeding as a preparation for the spring flood. They hope to produce more large fish and to maintain a high yield for this year so that there will be a larger supply of fresh fish for the urban and rural population.

9411
CSO: 4007/418

TIANJIN

CONSTRUCTION OF LEAK-RESISTANT DITCHES REPORTED

Tianjin TIANJIN RIBAO in Chinese 29 Apr 82 p 1

[Article by Wang Hengzhi [3769 1854 2535]: "Reduction in Water Seepage for Expansion of Irrigated Area. Municipality's Rural Villages Have Repaired More Than 1,100 Kilometers of Ditches To Prevent Leaks"]

[Text] During the past several years, Tianjin's rural villages have repaired more than 1,100 kilometers of various kinds of ditches to prevent leakage. These ditches control an irrigation area of more than 220,000 mu, and their repair has played a major role in the struggle to conserve water in the fight against drought.

As a result of 3 consecutive years of serious drought, the municipality's water resources have become increasingly short. In order to make limited water resources do the most good, ever since 1980 the state has provided subsidies to help communes and brigades build leak-resistant ditches. Some communes and brigades in quite a few suburbs and counties, including Wuqing, the northern and western suburbs, and Tanggu, have carried forward a spirit of self-reliance in an active pooling of funds, the transportation of materials, and the organization of construction to bring about fairly rapid development of projects to prevent leaks in the municipality's farmland irrigation ditches. As of now, prevention of leaks in ditches has been extended to a fairly large number of communes and brigades in the municipality's 12 suburban areas. Statistics show that during last year alone the municipality built more than 360 kilometers of leak-resistant ditches. Most of these leak-resistant ditches have been connected to pump wells, and some have been linked to pump well and small irrigation pumping stations. In the use of both well water and river water for irrigation, water conservation benefits may be attained. Most of the irrigation ditches have been constructed of bricks or stone lined with concrete. Some communes and brigades got locally available materials such as stones, bricks, and pipes to build ditches, obtaining rather good results in making them leak-resistant.

Construction and promotion of leak-resistant ditches has been remarkably effective in conserving water to fight drought in the municipality's rural villages. First it has reduced loss of water in transit through ditches and enlarged the area that can be irrigated. Loss of water from the concrete leak-resistant ditches built by Huiguokou Brigade in Niezhuangzi Commune, Wuqing County fell from the former 40 percent to about 10 percent. Construction by Hujiacun Brigade, Liangwangzhuang Commune in Jinghai County of a leak-resistant ditch linking 12 pump wells has meant an increase in the area watered by each well from the former 74 mu to 150 mu, and an increase in the well-irrigated area from the former 890 mu to 1,800 mu. Second, it saved energy, reducing irrigation costs. Watering of 140 mu of fruit trees through earthen ditches at Qingguang Brigade in the northern suburbs used up 840 kilowatt hours of electricity per watering. After construction of leak-resistant ditches, electricity consumption was 202 kilowatt hours per watering. In some keep well areas, well irrigation areas, mountain areas, and semi-mountainous areas where fields and orchards required much water, following contruction of leak-resistant ditches at multi-level water lifting irrigation stations, economic benefits were even more striking.

In addition, construction of leak-resistant ditches has also prevented secondary salinization of the soil. Furthermore, construction of leak-resistant ditches has meant a saving on land taken for ditches, has enlarged the cultivated area, has reduced silting of ditches, and has saved expenditures and work.

9432
CSO: 4007/425

XINJIANG

BRIEFS

LIVESTOCK PRODUCTION--Xinjiang Uygur Autonomous Region produced more than 10 million young animals during this year's spring lambing season, hitting an all-time high since the founding of new China. The survival rate of young animals was as high as 94 percent. [OW271241 Beijing Domestic Service in Mandarin 1200 GMT 20 Jun 82]

COTTON GROWING SYMPOSIUM--From 5 to 11 June, the Xinjiang Agriculture Department, the Xinjiang production and construction corps and the regional crop society held a symposium in Shihezi on scientifically growing cotton. The symposium emphatically pointed out that the way of developing cotton production in the region is to stabilize the existing cotton fields, increase the per mu yield and total output, and popularize the technology for growing cotton and raising economic returns. This sumposium discussed the relationship between grain and cotton. The symposium held that after several years' readjustment of the internal agricultural structure, the region must stabilize its areas sown to grain and cotton, the areas sown to grain must not be further reduced and the areas sown to cotton must not be expanded any more. The region must also correct the tendency of attaching more importance to cotton and less to grain. [HK231349 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 22 Jun 82]

CSO: 4007/459

FOUR KINDS OF 'SITTING AUTUMN' IN RICE DESCRIBED

Hangzhou JIEFANG RIBAO in Chinese 4 May 82 p 1

[Article: "Kinds of 'Sitting Autumn' in Early Rice"]

[Text] Comrades from the provincial spring farming and production techniques inspection team said the following at a report-back meeting. Because of the large amount of rainfall last winter and this spring, soil maturation has been poor and unfavorable for development of the early rice. Consequently, the possibility that "sitting autumn*" may develop in the early rice crop is very great. In Zhenjiang Province, four different kinds of "sitting autumn" are commonly seen.

First is toxic "sitting autumn." This occurs mostly in fields of high fertility, particularly in green manure fields having more than 4,000 jin of green manure per mu, or in fields where plowing has been overly late (within 7 days of the time when seedlings are transplanted), or where the terrain is low-lying and drainage poor. Prevention and control methods include improvement in drainage and irrigation conditions, lowering the water table, sensible use of green manure, and advocacy of less use of grass seed, with increased applications of quick acting nitrogenous fertilizer raked into the soil surface plus application of gypsum and alum.

The second kind is cold damage sitting autumn. This occurs when seedlings are transplanted too early and low temperatures ensue after transplanting, or when soil temperature is too low. Prevention and control methods include growth of sturdy seedlings with transplanting being done only when average daily temperature has become stable at 15°C. For ridged fields in hills, dtiching around the hill should be done; for cold waterlogged fields, ditching should be done; for fields in general, shallow irrigation should be maintained.

The third kind of "sitting autumn" resulting from lack of some element. This is caused by lack of some nutrient or proportional imbalance of nutrients in the soil. "Sitting autumn" resulting from lack of phosphate or potash is common, and fertilization with phosphate or potash is required. Results are best when at the time of transplanting seedlings roots are dipped or poked into calcium magnesium phosphate. It is more economical to spread phosphate fertilizer on seedlings carrying earth in the seedling fields. At the present time, supplies of chemical phosphate and potash fertilizer are insufficient, so use of barnyard phosphate and potash fertilizer should be vigorously advocated.

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*"Sitting autumn" (refers to a transplanting phenomenon where transplanted rice seedlings do not grow new leaves or roots while old ones wither or rot. The plant either dies or its growth is retarded 20-40 days.)

Fourth is "sitting autumn" from sodden soil. This occurs in gummy soil, in sodden fields that have been too deeply plowed, and in cold waterlogged fields. After transplanting, seedlings sink and cannot easily put down roots. Prevention and control methods are to dig ditches to divert water, to lower the water table, and to fertilize with phosphate and potash.

The above four kinds of "sitting autumn" frequently occur at the same time, but in all cases it is the roots that are damaged first. Thus it is necessary to increase soil porosity. Once seedlings have been transplanted and have greened up, frequent shallow irrigation should be done. If sitting autumn is discovered, water should be drained away and weeding of the fields done at once together with application of proper amounts of phosphate and potash fertilizer. After weeding has been done, fields should be aired and lightly dried to promote root vitality.

9432
CSO: 4007/427

AUTHOR: WU Zhuonian [0702 3504 1628]

ORG: South China College of Agriculture

TITLE: "Develop Farming Under the Guiding Principles of Agricultural Ecosystem"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 3-8

ABSTRACT: Agricultural ecology is a new science. With the development of agricultural modernization and a closer and closer link between agriculture and industry, such adverse effects on agricultural production as environmental pollution, energy deficiency, and ecological imbalance have also occurred. At present, these problems have attracted widespread attention. This paper introduces the basic concepts of the agricultural ecosystem, which is an offshoot of ecology, a study on the interrelationship between living organisms and their environment. As agricultural yield increase depends upon policy and science, the paper maintains that the good results of policy have been demonstrated by the fast improvement of agricultural production of recent years but science is still needed. By science, the paper means: (1) Reasonable production arrangement to suit the land; (2) Standardization of seed quality and regionalization of superior breeds; (3) Using fertilizer according to the needs of the soil. The above scientific techniques and the development of multiple production structure are explained to be essential in agricultural regionalization according to the viewpoint of the agricultural ecosystem, which should be adopted as the general concept and used as the foundation for implementing agricultural modernization.

AUTHOR: XUE Jinao [5641 6855 7663]

ORG: Jiangsu Provincial Academy of Social Sciences

TITLE: "On the Strength of Survival of the System of Responsibility With Payment Based on Quota"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 20-23

ABSTRACT: The title of the paper as it is translated into English in the journal appears to be less than precise. The system discussed in the paper is in fact a labor responsibility system, practiced universally in the past. In the past 2 years, communes and brigades of many places have changed the labor responsibility system to production responsibility system and very few continue to practice the former. The paper argues in favor of the labor responsibity system because it is favorable for fulfilling the State's plan, for developing the publicly owned properties, and for the full utilization of manpower and natural resources. The two different systems, and perhaps all shades between, are not clearly defined in the paper, however, and the paper does not offer criticisms of the new, and obviously growing, production responsibility system.

AUTHOR: LI Yong [2621 0516]

ORG: General Bureau of Animal Husbandry, Ministry of Agriculture

TITLE: "The System of Production Responsibility Speeds up the Increase of Large Livestock"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 24-27

ABSTRACT: From late Oct to early Dec [1981 ?] the author visited 9 counties in Zhoukou Prefecture of Henan Province and 2 counties of Fouyang Prefecture of Anhui Province to study draft animal related problems before and after the implementation of the production responsibility system. From 1949 to 54, the number of large livestock grew very fast in this part of the country, reaching 908 thousand heads. After collectivization in 1955, there were many changes in the production relationship, and a rush toward public ownership. By 1978, the number of large animals had dropped to 423 thousand heads. In these 25 years, only 1,473 live foals grew up in all of the 40 production brigades of Fugou County. After the adoption of the production responsibility system, doubts lingered. By the end of 1980, the number of large livestock continued to decrease; the number was 1,890 heads less than the end of 1979. In reality, the situation began to turn since 1979, however. In Fouyang Prefecture 104 thousand foals survived, for example. The farmers are willing to pay money to buy draft animals from everywhere in the country. Diseases and the lack of breeding stock are the 2 major problems. The farmers are afraid of possible policy change in the future and they are also afraid of not being able to sell the animals after they raise them.

AUTHOR: DIAO Guangshan [0431 1684 1472]

ORG: None

TITLE: A Preliminary Discussion of the Problem of Energy Resources in Rural Areas of Guizhou Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 32-36

ABSTRACT: In Guizhou Province, rural energy resources are composed of biological energy of firewood [shrubs and grass] and marsh gas, mineral energy of oil and coal, and natural energy of water and geothermal power. The coal consumption was 19.42 million tons in 1980, amounting to 26.4 percent of the energy consumed that year. Firewood consumption amounted to 72.1 percent of total. The development and utilization of marsh gas and geothermal energy are still in the research stage. To resolve the problem of rural energy needs and to protect the forest resources from further depreciation, the author suggests the following: (1) Reconstruct the existing small hydroelectric power stations to make all the equipment complete and operable. (2) Develop marsh gas in steady steps. (3) Plant trees in the 6,000 mu barren mountains for firewood.

AUTHOR: None

ORG: Reporter of the Journal

TITLE: "Discussions on Strategic Problems of Agricultural Development -- Symposium in Beijing Sponsored by China Society of Agricultural Economics"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 50-54

ABSTRACT: On 26 Feb, the China Society of Agricultural Economics held a symposium in Beijing to discuss the basic concepts of agricultural development strategy in China attended by 47 delegates representing agricultural colleges, scientific research organizations, and business departments in Beijing. Deputy Director of the society, WANG Gengjin [3769 5087 0093] chaired the meeting, and 8 comrades delivered important speeches, including SHI Shan [4258 1472] of Agricultural Modernization Research Committee Chinese Academy of Sciences, LU Wen [4151 2429] of the Policy Research Office, National Agricultural Committee, ZHENG Linzhuang [6774 2651 8369] of Foreign Economic Management Research Institute, Chinese People's University, LIU Zhicheng [0491 1807 3397] of Agricultural Economics Research Institute, Chinese Academy of Agricultural Sciences, DENG Yingtao [6772 5391 7118] LUO Xiaopeng [5012 1420 2590] of Chinese Rural Village Development Problem Research Group, ZHOU Cheng [0719 6134] of Department of Agricultural Economics, Chinese People's University, and YANG Jun [2799 0971] of Chinese Academy of Agricultural Sciences. An excerpt of each of these speeches is included in the paper.

6248
CSO: 4011/132

AUTHOR: FEI Huaixin [6316 2037 0207]

ORG: None

TITLE: "Preliminary Inquiry of Several Problems in the Economic Development of the Animal Husbandry Industry of Xinjiang"

SOURCE: Beijing MINZU YANJIU [NATIONALITY RESEARCH] in Chinese No 2, 20 Mar 82 pp 6-13

ABSTRACT: China is a unified nation of many nationalities. Within the territorial limits, all nationalities cooperate to develop the national resources and to proceed with production for the livelihood and material wellbeing of each as well as for contributing to the civilization of the fatherland. Animal husbandry is the major sector of China's minority economy and is also important in the national economy. It is the material foundation of production and livelihood of the minority nationalities of Xinjiang. It is; therefore, extremely significant for the development of socialism, the prosperity and unity of the nationalities, for the national defense, and for the elimination of de facto inequality among the nationalities. Since the liberation, there has been considerable progress in animal husbandry in Xinjiang. By the end of 1980, the number of animals was reported to be 26.7 million heads, more than doubling that of 1949. Not a few problems remain, however. They include: (1) The need of establishing a scientific concept of cause and effect for the maintenance of ecological balance in the course of developing animal husbandry; (2) The need of emphasizing an internal expansion of reproduction to raise the efficiency of productive material utilization; (3) The need of implementing and perfecting the production

[continuation of MINZU YANJIU No 2, 1982 pp 6-13]

responsibility system to promote a positive feeling toward production among the people who engage in animal husbandry and to raise the labor efficiency; (4) The need of improving the flow of animal husbandry products to promote the development and their production; (5) The need of strengthening the leadership of the party to move forward cautiously and steadily and to realize the fact that peace and solidarity form the basic guarantee for the development of production in animal husbandry.

6248
CSO: 4011/135

Botany

AUTHOR: HUANG Boxuan [7806 0130 3894]

ORG: None

TITLE: "Conserve the Source of the Water is the Essential Plan of Controlling Changjiang"

SOURCE: Beijing ZHIWU ZAZHI [JOURNAL OF BOTANY] in Chinese No 1, 1982 pp 1-3

ABSTRACT: Changjiang is the largest river of China, measuring 6,300 km. Its drainage basin is 1.80+ million km^2, with 4+ hundred million mu of cropland and 3+ hundred million of inhabitants. Its 700+ tributaries of all sizes measure a total of 80+ thousand km. At present, the forest cover of its basin is shrinking continuously and soil erosion totals 20+ hundred million tons a year. Will Changjiang become the second Huanghe? The current silting problems which are threatening agricultural production, obstructing navigation, and burdening the reservoirs are described. China's scientist ZHU Kezhen [4555 0668 4394] said: "the result of unlimited destruction of forests includes the destruction of soil fertility as well as the sources of water." As flood is the major calamity of the Changjiang Valley, to control the river must start from controlling the mountains. Soon after the liberation, the forest coverage of Sichuan was more than 19 percent. Now it has dropped to 13.3 percent. At present, mud flows are very active in 109 counties of Sichuan Province and mud flow is a form demonstrating the fact that soil and water losses have developed to a very serious stage. The paper calls for forest renewal in the origin of Changjiang in Sichuan Province for the purpose of preserving the Changjiang Valley from further deterioration.

AUTHOR: ZHANG Kuan [1728 1401]

ORG: Scientific Research Office, Shizi High School, Jinchun County, Hubei Province

TITLE: "Why is it that Top-pruning Can Increase the Yield of Crops"

SOURCE: Beijing ZHIZAZHI [JOURNAL OF BOTANY] in Chinese No 1, 1982 pp 5-6

ABSTRACT: Top-pruning can increase the yield of cotton about 20 percent, squash more than 30 percent, the castor-oil plant 40-50 percent; the yield increase for rape and sweet potato is even higher. The Jiayu County Institute of Agricultural Sciences of Hubei Province reported a top-pruning experiment in 1972 carried out in 0.22 mu of rape; the average yield reached 540 jin/mu. In 1976, Xinhuang County of Hunan tried the technique in 125 mu of sweet potatoes; the yield of fresh sweet potatoes was 10,000 jin/mu, with the highest reaching 17,800 jin/mu in some of these fields. The paper explains that top-pruning liberates the axillary bud from pressure, improves the photosynthesis efficiency, accelerates the accumulation of nutrients, and increases the number of channels and shortens their distance of nutrient transfer. Essential techniques of top-pruning are also briefly introduced.

6248
CSO: 4011/146

AUTHOR: ZHANG Shifa [1728 0013 3127]
JIANG Xingchun [5592 2622 2504]

ORG: ZHANG of Nanjing Hydrology Research Institute, Ministry of Water Conservancy; JIANG of Anhui Provincial Research Institute of Water Conservancy

TITLE: "Some Ideas Concerning the Assessment of Total Water Resources of the Huai River Plain"

SOURCE: Beijing SHUIWEN [HYDROLOGY] in Chinese No 2, 25 Apr 82 pp 8-12

ABSTRACT: It is a common knowledge that the total water resources of a stream valley include the surface water and the ground water, with the two transforming into one another. With an introduction of the ways of calculating the total water resources of a stream valley before and after the mining of ground water, the method of estimating the surface and the ground water separately before subtracting the overlap and the unavoidable evaporation is recommended to produce the preliminary estimate. The influence of dynamic changes of the water table on the water balance factors is analyzed and the relationship of evaporation of subterranean water, the water requirements of crops, and the ground water resource is explained. The paper emphasizes discussions of the methods and problems of assessing the water resources of a stream valley. There is very little concrete reference to the specific water resources of the Huai River valley.

AUTHOR: WANG Wengui [3769 2429 2710]
ZHANG Yufang [1728 3768 5364]
CHENG Xugan [4453 4872 1626]

ORG: All of Huai River Control Committee, Ministry of Water Conservancy

TITLE: "Application of Computer for Flood Forecasting in Huai River Basin"

SOURCE: Beijing SHUIWEN [HYDROLOGY] in Chinese No 2, 25 Apr 82 pp 21-27

ABSTRACT: Aside from the mountains and hills of the southwest and northeast, the Huai River basin is mainly a broad plain, measuring 270,000 km^2, spanning portions of the 4 provinces of Henan, Anhui, Jiangsu, and Shandong. The upper reaches of the source are short and the flow is swift. The floodwater comes in great force and takes very little time to spread out. The valley is distributed with 5200 large, medium, and small reservoirs, with a total storage capacity of 23 billion m^3. For the purpose of providing forecast information of the floodwater to the minute and second in order to complete the prevention work, the authors divide the entire basin into 8 sectors, 5 of which are located above Hongze Lake. The existing floodwater forecasting scheme is taken as the foundation for arrangement and supplementation to produce 10 systematic floodwater forecasting programs to be processed on a computer; programs are also written for computing the floodwater volume of each sector, the capacity of major reservoirs, the effect of the soils and rainfall so that the forecasting work of the entire basin may be carried out on the computer. The structure of the programs, the computation steps, and the forecasting results using computer are introduced.

6168
CSO: 4011/140

Hydrogeology

AUTHOR: XIAO Youquan [5135 2589 5425]

ORG: Department of Geology, Nanjing University

TITLE: "On Pollution and Protection of Acidic Pit Water"

SOURCE: Beijing SHUIWEN DIZHI GONGCHENG DIZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 3, 15 May 82 pp 7-9

ABSTRACT: China is extensively distributed with ferric sulfate deposits, coal deposits, and multi-metal sulfide deposits and a large number of these are being mined. The ores contain a certain quantity of sulfides, which, after oxidation, often turn into acidic pit water to corrode the pipes and equipment and endanger the health of the workers. When this wastewater is discharged, it pollutes the environment and the source of water supply to produce serious effects on agriculture, fish culture, and the industries. The chemical process of the formation of the acidic pit water and its characteristics are described. In most cases, the mines of China discharge this type of wastewater without treatment to create serious environmental pollution and great economic losses. In Yuntaishan of Jiangsu Province, for example, the mine discharges 3 thousand tons/month to pollute 1,600 mu of cropland. In an average year, the loss compensation amounts to 50-60 thousand yuan/year, to reach a maximum of 86 thousand yuan/year. Some data of the metal contents of contaminated soil are included also. Major techniques of treating the wastewater to render it harmless and practices of some mines, such as Chuanbu Coal Mine of Jiangsu, are also reported.

6168
CSO: 4011/141

Rabbit Husbandry

AUTHOR: LI Yingsong [2621 4481 2646]
YANG Zheng [2799 2973]

ORG: LI of Chinese People's Liberation Army University of Veterinary Medicine; YANG of Zhangjiakou Special School of Agriculture

TITLE: "On the Origin of Domestic Rabbits and the Development of Rabbit Husbandry in China"

ORG: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 20 Apr 82 pp 74-76

ABSTRACT: Due to the fact that the bones of rabbits are light and brittle, they are not easily found in nature. Fossil remains hardly exist except in some strata in Spain. It has been proven that all domestic rabbits have their origin in wild cave rabbits of Europe, however their ancestors dwelled in Spain and spread gradually to other parts of Europe and beyond. It is still difficult to pinpoint the time and place of the origin of their domestication, however. It has, nevertheless, also been proven that they were domesticated earlier in China than in Europe. Chinese historical records on domesticated rabbits are introduced. There are many native breeds, mostly white, distributed all over the country but especially in the Chengdu Plain of Sichuan. Domestication of rabbits has had a history of more than 2,000 years in China. In the last century, many breeds have also been introduced from foreign countries. In the 50's and the 70's, there were 2 fast developments. The export of frozen rabbit meat in 1980 amounted to 36,000 tons, 70 percent of the total world trade. The industry is expected to grow very fast in the future, as well.

AUTHOR: XU Hantao [1776 3352 3447]

ORG: Department of Veterinary Medicine, Nanjing College of Agriculture

TITLE: "On Improving China's Long-fur Rabbits in View of the Introduction of Long-furred Rabbits from W. Germany"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 20 Apr 82 pp 77-79

ABSTRACT: Since the liberation, especially in the recent years, the rabbit husbandry industry has continued to grow. At present, all major products of domesticated rabbits, the fur, the hide, and the meat, are all rated the first in quantity in the world. They have become one of the major export items. Angora rabbit is the most famous. For over 200 years, it has been raised in France, England, Germany, Japan, and China and different lines have been formed and each has its own special charactersitics. In 1978, several herds of Angora rabbits were introduced to China from W. Germany. Each of these can produce 1,500 g of rabbit hair per year. After their arrival, their production is reported to be declining, however. Their body weight is reduced to about 4 kg, and the hair production seldom exceeds 1,000 g. Measures to purify the breed, to utilize foreign breeds for hybridization, and to select and breed new lines are suggested. Problems of the concrete feeding conditions in China, the suitable ratio of a blood line, etc. remain to be answered through practice and experimentation.

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CSO: 4011/138

AUTHOR: LI Deguang [2621 1795 1684]
LIU Zhanzhen [0491 0594 6297]
ZHAO Tongying [6392 0681 2019]
ZHOU Zhixiang [0719 1807 7449]

ORG: All of Shanxi Provincial Research Institute of Meteorology

TITLE: "Scheme of Regionalization on the Basis of the Dry Hot Wind for Wheat in Shanxi Province"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 4, 20 Apr 82 pp 2-6, 20

ABSTRACT: In some years, a high temperature and low humidity phenomenon appears in the dry hot season between the spring and the summer. It constitutes the major disaster of agricultural meteorology in Shanxi Province to threaten the growth of wheat in its late stage. The yield reduction of wheat caused by this disaster varies from 5-20 percent, as high as 30 percent in some specially severe years. The extent of damage of the dry hot wind on wheat is, of course affected by the time of occurrence and intensity of the wind, but it is also affected by the adversity resistance, the growth and development period, the breed, the healthy growth of the early stage, and the ecological factors of the wheat itself. The paper is prefaced with an analysis of the data of 1959-78 concerning dry hot wind damages to wheat in the various localities of the province and followed with a scheme of dividing the

[continuation of SHANXI NONGYE KEXUE No 4, 1982 pp 2-6, 20]

province into 5 regions, with concrete strategies for protecting the wheat crop in each of these regions.

AUTHOR: ZHANG Shicheng [1728 4258 1004]
ZHANG Yuee [1728 2588 1230]

ORG: Both of Shanxi University of Agriculture

TITLE: "Yield Increase Effect of Fertilizer Application for Summer Seeded Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 4, 20 Apr 82 pp 8-11

ABSTRACT: Most summer seeded wheat crops are in hilly upland fields where the soil is thin and the fertilizer is in short supply. For the purpose of clarifying the suitable basic fertilizer, the quantity of additional fertilizer applications, the proper ratio of nitrogen and phosphorus, etc. for such crops, the authors carried out an experiment in small plots to compare 9 different fertilizer treatments. The effects of the different fertilizer treatments on the yield structure, the leaf-area of the wheat colony and the photosynthesis productivity, and the accumulation and distrubution of dry substance are reported. Based upon the result of the experiment, the paper concludes that the yield effect of the optimal combination of fertilizer treatment is to apply 6,000 jin of basic fertilizer [calcium perphosphate + farm fertilizer], 50 jin of addditional calcium perphosphate, and 17 jin of urea. Details of the experiment are given.

AUTHOR: YANG Wanrong [2799 8001 2837]

ORG: Institute of Alpine Crops, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Yanbei Prefecture is Suitable for the Development of Flax"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 4, 20 Apr 82 pp 22-23

ABSTRACT: Flax is a tough-bark fiber crop belonging to the Linum Family. There are 3 subspecies under cultivation: the large seed, the small seed, and the medium seed ones. The small seed type is most extensively cultivated. On the basis of utilization, there are the 4 types of fiber-use, oil-use, fiber and oil, and the Putao type. In Yanbei Prefecture, 88 percent of the one million mu of oil crops are oil flax. The seeds are pressed into oil [linseed oil ?] and the dregs are used as feed. The weather of the prefecture is cool and the daylight is plentiful to provide a favorable condition for the formation and accumulation of oil in the plants. At present, the yield is low, about 30-40 jin [seeds ?]/mu. The major reasons are: (1) Under the policy of emphasizing grain crops, lands that are remote, thin, and otherwise poor are allocated for flax; (2) Extensive instead of intensive cropping; (3) Using degenerated breeds. The author argues for a change of policy and the adoption of scientific cropping measures to develop the excellent potential of flax production in the prefecture.

6248
CSO: 4011/129

AUTHOR: LIU Guanghui [0491 0342 6540]

ORG: Xin County Agricultural Committee, Shanxi Province

TITLE: "On the Objective Bases of the Suggestion for Making the Xin-Ding Basin into a Region of Concentrated Production of Gaoliang"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 2-3

ABSTRACT: The Xin-Ding basin is located in the north-central part of Shanxi, being a stream valley basin of an elevation of 1,000 m. It encompasses the 5 counties of Xinxian, Dingxiang, Yuanping, Daixian, and Wutai, with more than 2 million mu of cultivated acreage. The weather condition, very favorable for Gaoliang [grain sorghum] and the economic advantages of Gaoliang over other grain crops are discussed. Gaoliang is a soil exhausting crop, however. According to analytical studies, to produce 100 jin of Gaoliang, about 2.5 jin of nitrogen, 1.3 jin of phosphorus, and 3 jin of potassium are required. At present, compared with the condition of the 60's, the organic matter content of the soil in the 70's is generally 0.1 percent less. This is the adverse result of applying only chemical fertilizer without the consideration of nurturing the soil. The people of the Xin-Ding basin also need other grains and cannot concentrate on Gaoliang development unless grains can be supplied from other regions. Scientific research is also deficient in Gaoliang cultivation techniques. The advantages of Gaoliang in the basin are supported with research data comparing heat and photo energy utilization rates of various crops in the basin.

AUTHOR: TIAN Liangcai [3944 5328 2088]

ORG: Shanxi Institute of Biology

TITLE: "Effects of High Temperature and Seeding Depth on the Germination and Healthy Growth of Summer Wheat Seedlings"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 4-7

ABSTRACT: At present, the major problems of summer-seeded wheat crops, under the high temperature condition, include poor germination rate, weak seedlings, large quantity of seeds for planting, few spikes, and low yield. Ordinarily, the most suitable temperature for sprouting of wheat seeds is 15-31°C. When summer wheat is seeded in early July, the average temperature is above 24°C. It may be as high as 30-35°C. A study is carried out to determine the effect of simulated temperature conditions between 21 and 40°C on the germination of wheat seeds, the nutrient consumption within the seed, and the growth of radicles, etc. The study also includes varying depth of seeding from 3.97 to 8.94 cm. It is the conclusion of the study that the suitable seeding depth for summer wheat is 3.5-4.0 cm. Detailed techniques of promoting germination and healthy growth of seedlings are reported.

AUTHOR: ZHU Hengjin [4376 5899 3160]

ORG: Institute of Crop Genetics, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Several Problems Concerning Summer Seeded Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 7-8

ABSTRACT: Summer seeded wheat is developed as a reformed cropping technique for upland wheat culture of mountainous and high altitude regions. The variation of production conditions in Shanxi is largely the result of different meteorological conditions of the different regions. It is; therefore, important to understand the suitability of the local weather condition for summer seeded wheat before it is developed locally. When the same breed of wheat is seeded in the summer instead of spring, the height of the stalk is lower, the number of nodes is reduced, the tillering node is moved to 2-3 cm, instead of 5-7 cm, from the ground surface, the growth and development period is shortened, and the flag-leaf-age is delayed to 55 days instead of the normal 40+ days. The seeding time is a key problem of wheat. If it is seeded early, the extended period of high temperature is not favorable; if it is seeded late the frost may affect normal ripening. It is the preliminary conclusion of the author that summer wheat in Shanxi should be seeded from late Jun to early Jul. About 25-30 jin of seeds should be planted, with not very thick soil cover. About 1 cun below the surface is the best. When additional fertilizer is applied, the ripening stage is delayed; therefore, the author suggests that one application of sufficient basic fertilizer is the best for summer seeded wheat.

AUTHOR: LIANG Huangying [2733 4106 5391]
XIA Xingyun [1115 2622 0061]

ORG: Both of Institute of Plant Protection, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Correct Treatment and Scientific Utilization of Farm Chemicals"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 21-23

ABSTRACT: According to survey data, the province has more than 580 types of pests and more than 200 types of plant diseases. There are two attitudes toward farm chemicals. Some think they are all powerful and spray them as soon as pests are observed. Others are terrified when the word pesticide is mentioned. The paper attempts to discuss rationally the following 3 problems concerning pesticides: (1) The problem of resistance of the pests: It is necessary to determine scientifically the development of resistance of a given pest and different pesticides should be rotated to prevent the development of resistance. (2) The problem of destroying natural enemy of pests: The use of highly selective or internal absorbing chemicals and the technicque of low density spraying should be adopted to avoid killing natural enemies of pests. (3) The problem of pesticide residues: The safety regulation of the State concerning various chemicals must be strictly followed.

6248
CSO: 4011/130

AUTHOR: ZENG Sui [2582 4482]

ORG: None

TITLE: "Reasonable Crop Arrangement Should be Given Attention in the Extension of Superior Breeds of Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 82 pp 7-9

ABSTRACT: Since the liberation, there have been, generally speaking, 3 stages in the work of extending superior rice breeds: The first stage of 1949-62 is to improve and replace farm breeds; the second stage of 1963-74 is to use dwarf breeds to replace high-stalk breeds; the third stage from 1975 on is to begin to extend hybrid paddy rice breeds. As each stage develops, a yield increase breakthrough has been obtained and the superior breeds of that stage are kept stable for a period of time. Within each of the period of relative stability, if the yield increase is to be sustained, a reasonable crop arrangement must be found, however. This paper reports the experience of Shaoguan Prefecture in Guangdong Province of recent years. The intermediate ripening breeds of Zhaiyeqing, Qingeai are arranged partially with some early and late ripening breeds for the early rice crop. For the late rice crop, hybrid rice and early ripening breeds are extended, to be arranged partially with intermediate and late ripening breeds. In the 3 years, a grain yield increase of 5.6 percent per year has been obtained for the entire prefecture. In 1979, the year's average reaches 970 jin/mu, averaging a grain ration of 579 jin per inhabitant. Details of this experience are reported.

AUTHOR: YANG Zhenyu [2799 2182 3768]
QI Dequan [7871 1795 5425]

ORG: Both of Research Institute of Rice, Liaoning Provincial Academy of Agricultural Sciences

TITLE: "Method of Preventing Mixing and Preserving Purity for Geng Rice Three-lines"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 82 pp 8-9

ABSTRACT: For several years, such Geng hybrids as Liming-A and Fengjin-A have been used in large acreages in Liaoning Province. When bags are used, the inbred fruiting rate is 0.017-0.06 percent and the sterility characteristic is basically stable. As the acreages are enlarged, there is not enough time for renewal of seeds of the 3 lines, and the phenomena of mixing and degeneration of the sterile line and the hybrid seeds are observed, mainly in the lack of uniformity of stalk height, spike type, ripening time, and the characteristic of bearded, beardless, long beard, or short beard. Measures adopted to purify the 3 lines and to prevent further mixing are reported. The fact that the technique of preventing mixing and purification for the 3 lines of Geng rice is somewhat different from the technique for Xian hybrids is the major aim of the paper yet the difference is not clearly demonstrated.

AUTHOR: SHI Minglun [4258 2494 0243]

ORG: Hanyang County Bureau of Agriculture, Hubei Province

TITLE: "Strengthen Cotton Bud Stage Management to Guarantee Stable Growth and to Increase Number of Buds"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May 82 pp 12-13

ABSTRACT: In the cotton bud stage, the growth of the root system reaches the peak and that of the above ground portion accelerates. The cotton plant changes from nutritional growth to reproductive growth and 50 percent of the growth of the main stem, about 70 percent of the **fruiting branches**, and about 60 percent of the total number of buds must be completed in that stage. The management requirements are to irrigate and drain to prevent either flood or drought, to apply a balanced amount of nitrogen, phosphorus, and potassium fertilizer according to the appearance of the plants, to hoe deeply to loosen the soil and to eliminate weeds, and to control pests thoroughly. The paper also recommends spraying several times with cycocel but it should be diluted to a low density.

AUTHOR: LIN Zhigu [2651 1807 7711]

ORG: Xingzi County Bureau of Agriculture, Jiangxi Province

TITLE: "Application of Shachongshuang for the Prevention and Control of Rice Pests"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 5, 17 May p 22

ABSTRACT: Shachongshuang [sodium thiosulfate propane ?] is a highly effective, broadspectrum, safe, low toxic, and low residue pesticide developed in China in the 70's. Toxicity tests have proved it to have no carcinogenic, mutagenic, or deformity causing actions. It is chemically stable, may be stored in room temperature, and remains highly effective a year later. It is both a contact and an internal absorbing pesticide. It can also be used as a fumigant and can kill pest eggs. Experience of applying 25 percent Shachongshuang in the county last year to prevent and control late rice leaf roller, rice thrips, rice leafhopper, rice plant skipper, rice planthopper, rice striped borer, etc. is reported. This new pesticide is the product of Liyang Chemical Plant of Jiangsu Province. The plant received a national science award for the successful research in 1978. At present, the Taihe County Agricultural Chemical Plant of Jiangxi Province is producing several hundred tons of it every year. It is being sold on the market at 1.85 yuan per jin.

6248
CSO: 4011/136

Veterinary Medicine

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ORG: All of Henan Provincial Public Health and Epidemic Prevention Station

TITLE: "First Time Detection of Yersinia Enterocolitica in Pigs in China and Its Identification"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 2, 22 Feb 82 pp 2-5

ABSTRACT: According to foreign reports, Yersinia enterocolitica is extensively distributed in nature and when it is distributed in the digestive tract of men and animals, it may cause enteric infectious diseases. A large portion of infant diarrhea is caused by this germ and from time to time an epidemic may erupt. Isolation of this germ had not been reported before in China. The authors proceeded with Yersinia enterocolitica culture of 88 specimens of ileocecal contents of pigs slaughtered at the Henan Provincial Meat Joint Plant. Sic strains of Yersinia enterocolitica were isolated. Biochemical, morphological, biological typing, etc. identification processes were also performed. Details of the 1980 experiment are reported.

AUTHOR: ZHANG Chensheng [1728 2525 3932]
ZHOU Xiuling [0719 4423 3781]
GAO Yunhua [7559 5619 5478]

ORG: All of Veterinary Medicine Experimental Diagnosis Center, Beijing City

TITLE: "Immunoserological Diagnosis of Swine Toxoplasmosis --- Application of Indirect Blood Cell Agglutination Test"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 2, 22 Feb 82 pp 20-22

ABSTRACT: Since 1977, swine toxoplasmosis has been discovered off and on in many places in China. For diagnosis, aside from using pathogen isolation and morphological observation, some scientists have now applied the immnuofluorescence technique, enzyme labeling method, etc. to ascertain the pathogen. Meanwhile, immunoserological diagnosis techniques are also being gradually developed, including pigment test, indirect blood cell agglutination test, abnormal skin reaction, etc. In the past year, the authors used indirect blood cell agglutination test to examine 223 serum antibody specimens of swine toxoplasmosis cases. Of these, 76 specimens were from vaccinated pigs, the positive rate was found to be 100 percent; 29 from healthy pigs, the positive rate was 93.8 percent. The technique was found to be highly sensitive, fast, and simple, and should be feasible for the purpose of conducting general surveys. The technique is introduced.

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CSO: 4011/137

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ORG: GAO, LI, DING, ZHAI of Department of Biology, Beijing University; LI of Research Institute of Veterinary Medicine, Xinjiang Academy of Agricultural Sciences; XIANG of Institute of Center of Veterinary Drug Control, Ministry of Agriculture

TITLE: "Blending Experiment of Swine Erysipelas and Swine Pulmonary Bacillus Protoplasms"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 4, 20 Apr 82 pp 2-7

ABSTRACT: Cell blending is a new technique developed in early 60's. Further studies are still awaited regarding improvement of blending technique, survival of the hybrid cells, selection, and heredity, etc.,however. Swine erysipelas and swine pulmonary bacillus are two of the most serious pathogens of infectious diseases endangering the animal husbandry industry, although weak vaccines of both have been successfully cultured to treat them. An experiment is carried out by the authors using PEG to induce blending of protoplasms of both pathogens. The experiment, repeated numerous times, indicates that the method is feasible, but the protoplasms should not be treated with the 40 percent PEG for too long a period of time. Details of the experiment are reported.

AUTHOR: XIA Dingyou [1115 1353 0645]

ORG: Sichuan College of Agriculture

TITLE: "A Survey of Swine New Fever"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 4, 20 Apr 82 pp 34-38

ABSTRACT: In Jun 78, several herds of piglets were purchased from a certain swine seed farm in Hubei Province and transported to Chengdu City and neighboring counties of Sichuan Province. Hog cholera and paratyphoid vaccinations were administered before the shipment. Symptoms of diarrhea and fever occurred repeatedly to the piglets; the incidence was high but the mortality rate was low, yet there were also occasional cases of acute infection and sudden death. Is this hog cholera? Is it toxoplasmosis? Moreover, in Dec 78, one hog in Guanghan, which came to Sichuan with the aforementioned herds, came down with the same symptoms. It was dissected and Toxoplasma gondii was not found. The epidemic condition, the pathogenetic signs, and variations of symptoms of this disease are reported. A type of micro-nodules, capable of twisting, were found to be in all the tissues, body fluids, and excretions of the diseased pigs. This disease temporarily named a paratoxoplasmic disease which has later been changed to the temporary name of new fever.

AUTHOR: ZHAI Chunsheng [5049 2504 3932]

ORG: Research Institute of Military Medicine, Rear Service Department, Fuzhou Military District

TITLE: "The Hydridoma Technique and Its Application"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 4, 20 Apr 82 pp 41-45

ABSTRACT: The hybridoma technique was established in 1975 by Kohler and Milstein. It is a type of genetic engineering method of producing monoclonal antibody, and has attracted a great deal of attention in foreign countries. Hybridoma companies have been created in the USA with giant capital investments. In China, this sort of technology is relatively backward, especially with regard to its application in veterinary medicine. There has yet been any introduction in domestic journals or books. Based upon foreign data related to the subject, this paper introduces briefly the hybridoma technique of making monoclonal antibody and the applications of monoclonal antibodies in immunological research, in microbiological classification, and the prospect of their application in clinical treatment of cancer and other diseases. The paper does mention the fact that research on hybridoma has begun in China, but does not give any details.

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China Report

AGRICULTURE

No. 216

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CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

PRC REGULATIONS ON WATER, SOIL CONSERVATION

OW080101 Beijing XINHUA Domestic Service in Chinese 0032 GMT 7 Jul 82

[Text] Beijing, 7 Jul (XINHUA)--The State Council promulgated the "Regulations Governing the Work of Water and Soil Conservation" on 30 June 1982. The regulations read in full as follows:

Chapter I: General Principles

Article 1

The prevention and treatment of soil erosion and the protection and rational use of water and soil resources are a fundamental measure to transform hilly, mountainous, windy and sandy areas; harness rivers; reduce the natural disasters of flood, drought and sand blown by the wind; build a good ecological environment and develop agricultural production as well as an important aspect in harnessing the land of our country. To perform water and soil conservation work well, these regulations are hereby laid down.

Article 2

The principles guiding the work of water and soil conservation are to lay equal stress on both prevention and treatment, combine harnessing with management, suit measures to local conditions, make overall plans, tackle problems in a comprehensive way, eliminate what is harmful and promote what is beneficial.

Article 3

The Ministry of Water Conservancy and Power is in charge of water and soil conservation work throughout the country. A group for coordinating water and soil conservation work throughout the country shall be set up with the Ministry of Water Conservancy and Power as the leading factor and with the participation of the state planning commission, the state economic commission, the Ministry of Agriculture, Animal Husbandry and Fishery and the minister of forestry in order to strengthen the liaison with various departments concerned, regularly study and solve major problems in water and soil conservation work and do this work well. Local people's governments at various levels that are tasked with the prevention and treatment of soil erosion should set up necessary organizations for water and soil conservation according to their specific conditions.

The tasks of water and soil conservation organizations are to carry out the principles, policies and decrees of the state on water and soil conservation; conduct water and soil conservation surveys; make plans for water and soil conservation and organize the implementation of such plans; supervise and check up on water and soil conservation work by the departments concerned; organize and engage in scientific research on water and soil conservation, the training of qualified personnel and propaganda work in this regard; and do a good job in managing and using funds and materials for water and soil conservation.

Various river valley organizations should be responsible for surveying, planning and engaging in scientific research on water and soil conservation in their own valleys and assist and give impetus to the water and soil conservation departments of various provinces, autonomous regions and municipalities directly under the central government in their valleys in performing water and soil conservation work well.

Water and soil conservation, agrotechnical, forestry, water conservancy, farm machinery, clay fertilizer and prairie stations are all dutybound to help local communes and production brigades and teams with water and soil conservation work.

Article 4

People's governments at various levels in hilly, mountainous, windy and sandy areas must include water and soil conservation in their plans, strengthen their leadership, make overall plans, organize and coordinate the work of water and soil conservation, conduct propaganda and education, and mobilize the masses to do this work well. Water conservancy, agricultural, forestry, animal husbandry, land reclamation, environmental protection, railway, communications, industrial, mining, power, scientific research and other departments must closely coordinate with each other, divide their work with individual responsibility and perform their water and soil conservation work well. Propaganda and publication departments should make propaganda on water and soil conservation in a planned way, popularize scientific knowledge in this regard and raise cadres' and people's understanding of the harmfulness of soil erosion and the importance of water and soil conservation.

Article 5

Under the guidance of overall planning for water and soil conservation by local people's governments, rural communes, production brigades and teams, as well as state farms and state forest and livestock farms should make concrete plans for water and soil conservation according to local natural conditions and the actual needs of the masses in production and livelihood, and organize the implementation of such plans.

Article 6

It is necessary to mobilize social forces and rely on the efforts of the masses to prevent and treat soil erosion. The state will give necessary financial and material aid to them and provide key areas with additional aid.

Planning departments at various levels should include water and soil conservation in their economic plans. The special funds allocated by the state for water and soil conservation must be used for this special purpose, not for other purposes. Water and soil conservation and finance departments at various levels should strengthen their management of funds and attach importance to returns on investment.

Chapter II: Prevention of Soil Erosion

Article 7

It is forbidden to open up and plant crops on slopes with a gradient of more than 25 degrees. The people's government of provinces, autonomous regions and municipalities directly under the central government may stipulate a gradient of less than 25 degrees based on local terrains, landforms and population density which also forbids the opening of a slope.

Article 8

It is forbidden to open up wasteland, scoop up sand or cut into a mountain with explosives for quarrying in seriously windy and sandy areas, areas with the danger of a landslide, areas where a mud rock flow is possible, on hillsides along railways, highways, rivers and irrigation ditches and in areas around reservoirs, natural protection areas, scenic areas and places of historic interest, scenic beauty and important cultural heritage.

Article 9

It is forbidden to reclaim wasteland in Loess hills and gullies as well as plateau gullies on the Loess plateaus. The provinces and autonomous regions concerned should, according to their specific conditions, stipulate areas that it is forbidden to reclaim.

Article 10

It is strictly forbidden to destroy forests, open up wasteland and reclaim grasslands and slopes for grazing livestock.

Article 11

In opening up land on slopes with a gradient of less than that which forbids the reclaiming of a slope, a unit or individual must obtain the approval of a people's government at the country level and take measures for water and soil conservation. Violators of this article shall be ordered to return the reclaimed land planted with trees and grass.

In opening up land on slopes with a gradient of less than that which forbids the reclaiming of a slope, state farms must report their plans to higher authorities for approval in accordance with relevant state regulations. The land reclamation plans which they submit to higher authorities for approval must include implementation plans for water and soil conservation. The state farms should also solicit opinions on their implementation plans from water and soil conservation departments before their land reclamation plans are approved. After their land reclamation plans are approved, the water and soil conservation departments should supervise the implementation of such plans.

Article 12

Indiscriminate felling of trees to the damage of water and soil conservation is strictly forbidden. Plans for felling trees in accordance with state regulations that are submitted to higher authorities for approval must include implementation plans for reforestation on slashes and for water and soil conservation. Opinions on the implementation plans should be solicited from water and soil conservation departments before the tree-felling plans are approved. After the tree-felling plans are approved, the water and soil conservation departments should supervise the implementation of such plans.

Article 13

In afforesting slopes, weeding and intertilling the land between young trees and replanting hillsides with tea oil and tung trees, it is necessary to take water and soil conservation measures in order to prevent soil erosion.

Article 14

In building projects or engaging in production in hilly, mountainous, windy and sandy areas, water conservancy, railway, communications, industrial, mining, power and other departments should minimize damage to landforms and vegetation. In quarrying, digging up clay and scooping up sand which may cause soil erosion, it is essential to take water and soil conservation measures. Discarded clay, rocks, sand, slag and tailings must be properly disposed of and must not be allowed to be dumped into rivers and reservoirs. When a project is completed, the construction unit is responsible for taking vegetation measures and necessary engineering measures to protect water and soil resources in the uncovered areas from which the unit dug and took clay.

Engineering project designs and production plans submitted by various departments for approval must include measures for preventing and controlling soil erosion. Opinions about such measures must be solicited from the department in charge of water and soil conservation work prior to the approval of the designs and plans. After the approval of the designs and plans, the measures must be implemented under the supervision of the said department. Where soil erosion has already appeared, control measures must be taken within a certain time limit. Funds required for soil erosion control should be disbursed from the capital construction investment in the case of capital construction units or from the money set aside for equipment renewal and the streamlining of enterprises or, in the case of production enterprises, from the fund for developing production.

Article 15

County [prefecture?] governments in mountainous and hilly areas and in windy and sandy areas should organize the rural communes and production brigades as well as the state-run agricultural, forestry and livestock farms according to local conditions and in a planned way to close certain mountains and hills for the purpose of averting the erosion of sandy soil, plant trees and grow grass, close certain areas and use other areas as grazing lands on a rotational basis and vigorously build fuel forests and grow fodder grass and green manure crops. Habits such as removing sod, digging up tree saplings [Wa Shu Dou 2177 2885 0351], indiscriminate logging and wanton grazing should be changed in order to protect vegetation.

Article 16

County-level people's governments in mountains and hilly areas and in windy and sandy areas should, in accordance with the needs of production plans and water and soil conservation, work out specific measures in order to lead--in a well-organized way--the work of the various sideline production projects of rural communes and production brigades, state-run agricultural, forestry and livestock farms and individuals, such as collecting and growing medicinal herbs, raising tussahs, cultivating edible fungi and mushrooms, making charcoal, bricks and tiles, mining and quarrying. It is necessary to prevent random digging or dumping of earth and rocks, a practice which can destroy vegetation and result in soil erosion.

Chapter III: Soil Erosion Control

Article 17

In controlling soil erosion in mountainous and hilly areas, it is necessary to act in accordance with the local natural conditions, take small river valleys as units for such work, make overall plans, apply diverse methods, concentrate attention and make continued efforts. It is necessary to combine measures concerning plants with engineering measures, work on mountain and hill slopes with work on ditches and water channels, and engineering projects in the fields with farming measures aimed at conserving water and soil. In addition, it is necessary to pay attention to both controlling soil erosion and promoting production by utilizing natural resources, take into consideration both immediate and long-range advantages and strive for practical results.

Article 18

As for present arable sloping land, if the slope is above the degree for banning reclamation, it should be treated discriminately according to the different conditions. If local communes and production brigades have relatively few people but large expanses of land, they should actively build their basic fields on flat and less sloping land and do their best to raise the per unit output from such fields, while using the more sloping land for building forests and growing grass instead of farming. If the local communes and production brigades have relatively large numbers of people but small expanses of land and, therefore, find it difficult not to farm on their arable sloping land, it is necessary to set a time limit, according to the degree of slope, for them to build the sloping land into terraced fields or to take other measures to conserve this land's water and soil. As for present arable sloping land where the slope is less than the degree for banning reclamation, it is necessary to take such water and soil conservation measures as contour farming, contour listing, rotation of grass and field crops and the building of terraced fields in order as to prevent and control the soil erosion.

Article 19

Local people's governments should organize the forces of communes, production brigades and the masses to carry out the task of controlling soil erosion by taking into consideration how the agricultural production responsibility system is being carried out and by adopting appropriate measures that are best suited to local conditions.

Communes and production brigades that should cooperate with each other in fulfilling their heavy tasks of controlling soil erosion are required to carry out the principles of voluntary participation and mutual benefit, exchange based on equal value and reasonable responsibilities. After commencement of the soil erosion control project, the task of management, distribution of benefits and use of the newly added farmland should be decided by the participating units through discussion. The ownership of the original land should not be changed.

Article 20

Rural communes and production brigades and departments concerned should make all-out efforts to build necessary tree sapling farms and seed production bases so as to supply grass seeds and tree saplings required for controling soil erosion.

Article 21

Any unit or individual who has caused soil erosion because of land reclamation, sideline production projects, mining, road construction, building of water conservancy or hydroelectric power projects, logging or other production and construction projects should be responsible for solving the soil erosion problem. The local people's government has the power to supervise, speed up, inspect and set a time limit for the work in this regard.

Article 22

All localities should fulfill the responsibility for the management of water and soil conservation facilities (including engineering projects as well as trees and grass). All localities should strengthen the management and maintenance of these facilities, increase their benefits and give full play to their role in conserving water and soil.

In accordance with the state of water and soil conservation facilities, rural communes and production brigades should fulfill the responsibility for their management and maintenance. For some water and soil conservation facilities, pledges for their management and maintenance may be drawn up and necessary management and maintenance organizations may be formed. Conservancy, railway, communication, industry and mining departments, as well as state-run agricultural, forestry and livestock farms, should set up management and maintenance organizations or assign specific personnel to take care of the management and maintenance of water and soil conservation facilities within the scope of their jurisdiction.

Article 23

No unit or individual is allowed to encroach upon or sabotage water and soil conservation facilities or experimental spots, instruments or equipment for water and soil conservation.

Article 24

In the windy and sandy areas of northeastern, northern and northwestern China, the local people's government should, under the state's unified planning, organize rural communes and production brigades as well as state-run agricultural, forestry and livestock farms to build windbreaks and to concentrate on growing grass over large tracts of land in order to protect against wind and avoid the erosion of sandy soil. In other windy and sandy areas, the local people's government should also work out plans and take effective measures to prevent the harmful effects of wind and sand.

Article 25

With regard to grasslands, grassy mountains and grassy slopes which have become sandy and degenerated, it is necessary to adjust the number of livestock grazing there in a planned way based on the livestock accommodating capacity of these areas. It is also necessary to apply the measures of closing certain areas and using other areas for grazing on a rotational basis, sowing fodder grass and building windbreaks in an effort to restore vegetation and improve the conditions of the grazing land. In areas with serious soil erosion, active efforts should be made to grow fodder grass, promote the method of raising livestock in confined areas and change the practice of open field grazing in order to restore vegetation.

Article 26

In areas where the people have the habits of reclaiming mountain land for farming [Dao Shan Lun Zhong 0227 1472 6544 4429] and cutting or burning off grass and trees to do farming [Dao Geng Huo Zhong 0430 5087 3499 4429], the local people's governments should strengthen propaganda and education, assist in building basic farmland, popularize agricultural science and technology and create various conditions for changing the farming habits step-by-step in the interest of water and soil conservation.

The sloping land not being used in rotational farming should be promptly planted to fodder grass or green manure crops in order to increase the vegetation on the land.

Chapter IV: Education and Scientific Research

Article 27

Education, water conservancy, agricultural and forestry departments should sponsor a specialty class or course on water and soil conservation at related institutions of higher learning. Provinces and autonomous regions with serious soil erosion problems may establish secondary water and soil conservation schools or set up a water and soil conservation speciality class or course at secondary water conservancy, agricultural or forestry vocational schools for the prupose of vigorously training scientific and technical workers in this field. Relevant courses at primary and middle schools should contain something about water and soil conservation.

Article 28

The Chinese Academy of Sciences, the departments of water conservancy, agricultural and forestry research, the water and soil conservation departments of provinces, autonomous regions and provincial level municipalities and the river basin management organizations should strengthen leadership over their subordinate scientific research units which handle water and soil conservation. They should seriously conduct scientific research on water and soil conservation and timely summarize and popularize the results of this research.

Scientific research on water and soil conservation must be conducted in close connection with reality in order to serve the prevention of soil erosion and the development of production, while research is conducted on major practical techniques for water and soil conservation, it is also necessary to do intensive research on basic theories and relevant social and economic problems in order to produce scientific data for preventing soil erosion.

Chapter V: Rewards and Punishment

Article 29

Organizations or individuals that perform any of the following advanced deeds shall be commended and rewarded according to their accomplishments by the people's governments at various levels:

1. Making outstanding achievements in the prevention of soil erosion or in the management and maintenance of water and soil conservation facilities;

2. Persistently doing fast and good repairs of soil erosion and performing water and soil conservation with remarkable economic results for a long time;

3. Achieving noticeable achievements in actively changing the habit of extensive cultivation, conserving water and soil and developing agricultural, forestry and animal husbandry productions;

4. Making fairly large inventions, innovations or other contributions in the science and technology of water and soil conservation;

5. Achieving remarkable successes in the research, education, publicity and popularization and management of water and soil conservation science;

6. Making contributions in the struggle against the sabotaging of water and soil conservation; and

7. Doing water and soil conservation work at the grassroots level for more than 15 years with enthusiasm and outstanding performance.

Article 30

Organizations or individuals that commit any of the following violations of these regulations should be held responsible for compensating for the loss; the responsible persons of the organization or the individual violators should be handled with disciplinary sanctions; and investigations should be conducted on those who commit crimes in order to affix the responsibility for the crimes:

1. Reclaiming wasteland in violation of articles 7, 8, 9, 10 and 11 or refusing to follow water and soil conservation measures and thus causing serious consequences when reclaiming land on slopes which are officially open to reclamation;

2. Refusing to reforest slashes or prevent soil erosion in violation of articles 12 and 13 and thus causing serious soil erosion;

3. Refusing to follow water and soil conservation measures in violation of article 14 and thus causing damages due to soil erosion;

4. Wantonly excavating or dumping earth and stone or destroying vegetation when undertaking sideline production and thus causing damages due to soil erosion; and

5. Seizing or destroying water and soil conservation facilities, experimental spots, instruments and equipment in violation of article 23.

Article 31

All organizations and persons have the right to report to authorities or file charges against those who violate these regulations. The reported or accused organizations or individuals shall be punished according to law if they take reprisals.

Chapter VI: Supplementary articles

Article 32

The people's governments of various provinces, autonomous regions and provincial level municipalities may formulate detailed rules and regulations based on these regulations.

Article 33

These regulations come into force upon promulgation.

CSO: 4007/463

BEIJING

TIPS PROVIDED FOR GROWING NEW CORN VARIETY

Beijing ZHONGGUO NONGMIN BAO in Chinese 13 May 82 p 4

[Article: "Early Maturing Corn, 'Jingzao No 7'"]

[Text] "Jingzao No 7" is a single cross variety of corn bred by the Beijing Municipal Academy of Science's Crop Institute. Its female parent was Huangzao 4 and its male parent was Luoxi 3. It is characterized by early maturation, high yields, and resistance to disease. Since 1979 it has been promoted for cultivation throughout the country over an accumulated more than 4 million mu, for a 450 million jin increase in grain output. This year it has been made a major project for promotion throughout the country.

Jingzao No 7's growing season is about 95 days, making it suitable for sowing in the summer or planted in spring following the wheat harvest on the northern part of the North China Plain. He'nan and Shandong are now test planting it for promotion, and a certain acreage has also been devoted to it in Sichuan and Hunan. It may very possibly become a wetland rotational crop in the mid and lower reaches of the Chang Jiang, and a variety with prospects for changing the farming system there. When sown in spring in cold areas, it is prone to development of head smut, requiring that disease prevention measures such as late sowing and mixing of seeds in pesticides be taken.

Jingzao No 7's main characteristics are compactness of plant shapes, and an upward tilt of middle and upper leaves that permits close planting. Its hollow stalk rate is very low, and its double ear rate may reach as much as 10 to 20 percent. Yields average 600 to 700 jin per mu, the maximum being 1,300 jin or so. Yields from 59 high-yield demonstration fields in the Beijing suburbs in 1981 averaged 1,012.5 jin per mu. Jinzhuang Production Brigade in Gaocheng County, Hebei Province harvested average yields of 1,120 jin per mu from 120 mu.

Other characteristics of Jingzao No 7 are as follows: Resistant to large and small leaf spot; tolerates waterlogging and is drought resistant; has fairly wide adaptability. Kernels are almost hard, and both quality and taste are rather good. Plants do not prematurely deteriorate during the late stages of development, and at harvest time between 3,000 and 4,000 jin per mu of fresh stalks and leaves may be taken. For both parent pairs the inbred line shape characteristics are apparent. Plant colonies readily differentiate, making for ease in getting rid of mongrels to preserve purity. Additionally, the leaves of the female parent inbred line, Huangzao 4, stick up, and its double earing rate is very high. Actual density of plants is 5,000 to 5,500 per mu and seed production stands around 300 jin per mu, making for rapid promotion of this variety to cultivation.

The growing of Jingzao No 7 requires mastery of three key techniques:

1. Early sowing. Jingzao No 7's leaves total 22 in number and it requires cumulative temperatures of from 2,350 to 2,400°C during its growing season. When it is fully ripe, the per 1000 weight of kernels is more than 300 grams. However, because it is frequently planted late in production, and unable to ripen normally before fall planting begins, its per 1000 grain weight is only about 250 grams. Thus, a potential for increased yields of more than 100 jin per mu exists. Consequently, efforts should be made to plant early to assure that there will be plenty of time for kernels to be in-the-milk during the late stage. When grown during the summer in the Beijing-Tianjin area, it should be planted no later than 24 June.

2. Suitable close planting. When grown in soils of moderate to high fertility, seedlings should best be thinned to 4,100 - 4,300 per mu for an actual harvest of 3,800 - 4,000 stalks.

3. Increased fertilization. Summer corn has a short growing season. It grows rapidly; yields are high; and it has to absorb greater amounts of nutrients. Fields that produce 700 - 800 jin per mu generally require 80 - 100 jin per mu of ammonium carbonate, fertilization being done twice, after the thinning of seedlings and during the time of full flowering, following the principle of "heavy application first and light application later." For high yield fields producing upwards of 1,000 jin per mu, fertilization with nitrogen should be increased to 120 - 150 jin per mu.

9432
CSO: 4007/437

NEW PROGRESS IN AGRICULTURAL ZONING IN FUJIAN PROVINCE

Fuzhou FUJIAN RIBAO in Chinese 10 Apr 82 p 3

[Article by FUJIAN RIBAO correspondent: "Agricultural Zoning in Our Province Made New Progress"]

[Text] Resource survey and agricultural zoning in our province made new progress last year. By now, 30 counties, or 43 percent of all the counties and municipalities in the province, have begun these tasks, and five of them--Putian, Shouning, Changding, Shaxian and Shunchang--have already completed or basically completed them.

Last year, thanks to the attention of the provincial, prefectural and county leading departments and the efforts of the broad masses of scientific and technical personnel, the work of agricultural resource survey and agricultural zoning in our province has developed from exploration in a few selected counties to experiments in many far-flung points. There are now experimental counties in all nine prefectures and municipalities. All these counties have selected a large number of cadres and agricultural scientists and technicians for training backbone elements in technology. They were organized into specialized investigation groups for agriculture, forestry, animal husbandry, fishery, meteorology, water conservation, farm machinery, hydrology, geology, and enterprises run by communes and production brigades. They visited the mountainous and hilly regions, the plains and coastal areas to investigate and ascertain the availability of natural resources. In Putian County, it was discovered during the investigation that more than 220,000 mu of barren hills have not yet been utilized; that more than 120,000 mu of shallow sea and beaches could be used for breeding purposes; and that this county had favorable locations for growing sugarcane and the three famous fruits (longan, litchee and loquet). Instead of worrying about the difficulty of developing production in view of the scarcity of land and the large population, as they did for a long time in the past, the broad masses of cadres and people can now see the bright prospects for developing the mountainous and sea areas. In Shouning County, it was discovered that there were rich resources in the form of wild peaches, which, if properly attended to, could yield 200,000-300,000 dan of fresh fruits and become a source of good income.

Through the survey on agricultural resources and agricultural zoning, many localities are now able to direct their agricultural production purposefully instead of blindly, and have organized the communes and production brigades to turn their attention to the mountains and the sea.

9411
CSO: 4007/419

BRIEFS

FLOWER-GROWING COMMUNE--Some educated young people in (Yongfu) commune of Zhangping County, a famous flower-growing village in Fujian province, have been praised by the leading cadres of the Fujian Provincial Party Committee for their success in growing flowers and cultivating precious flower varieties. Their products are sold in 16 provinces and cities in China. Xiang Nan, first secretary of the Fujian Provincial Party Committee, visited (Yongfu) commune on 14 June. He said to prefectural, county and commune cadres: (Yongfu) is a good place. It is necessary to do good planning and continue to develop flower production. [Excerpts] [OW050931 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 1 Jul 82]

CSO: 4007/463

BRIEFS

COUNTY LIVESTOCK--Xiahe County, Gansu Province, achieved good results in spring livestock production. Now the number of livestock production totals 1.01 million head. All of the 270,000 head of newborn lambs and calves are growing well. [SK052258 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 4 Jul 82]

GRASS PLANTING MEETING--The Gansu Provincial animal husbandry and agricultural departments recently held a meeting in Tongwei County on planting grass in dry areas in the central part of the province. The meeting contended that planting grass and raising animals in dry areas in the province is the best way to fertilize the soil to promote bumper harvest in agriculture and animal husbandry. Attending the meeting were responsible comrades of 18 counties which have dry lands and provincial and prefectural pertinent departments. They visited some production team grasslands and exchanged experiences in grass planting. [SK030730 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 2 Jul 82]

CSO: 4007/463

RAPID PROGRESS OF WHEAT-SOWING REPORTED IN HEILONGJIANG

Harbin HEILONGJIANG RIBAO in Chinese 12 Apr 82 p 1

[Article by HEILONGJIANG RIBAO correspondent: "Wheat-sowing in Our Province More Than Half Completed"]

[Text] Because of the fine weather in various parts of the province in the past several days, wheat-sowing has been carried out at the rate of 600,000 mu each day. By 9 April, 15,600,000 mu, more than one-half of the total planned acreage, or 3,770,000 mu more than the acreage in the same period last year, had already been sown to wheat.

There was serious waterlogging in the eastern part of the province this spring. All farms and production teams carried out sowing on a crash basis and won the initiative. All units in the wheat producing areas of the west and the north increased their sowing speed by preparing the farmland and attending to the problem of moisture simultaneously in the effort to achieve a high yield. Throughout the province, some 4.8 million mu of land had been leveled and thoroughly raked before the actual sowing. In the two wheat areas in the west and the north, sowing is now in the peak period and the rate of progress is faster than in past years. It is anticipated that by 20 April, or thereabout, more than 90 percent of the work will be completed.

The farmland is now full of moisture everywhere. While sowing in the hilly areas on a crash basis, people in all wheat growing areas are continuing to prepare the land by turning over the top soil or by breaking down the ridges as a means of dissipating the moisture, in an effort to plant more wheat in the lowland. The relevant departments directly under the province are supplying more seeds for the late crop to the farms and production teams where waterlogging is serious, so that they can carry out their sowing at a later stage.

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CSO: 4007/419

SYSTEMS OF OWNERSHIP IN HEILONGJIANG RECLAMATION AREAS DISCUSSED

Harbin HEILONGJIANG RIBAO in Chinese 12 Apr 82 p 1

[Article by correspondent: "Reclamation Area Economy Developing in the Direction of a Diversified Ownership System"]

[Text] The reclamation area economy in our province is now gradually developing in the direction of a diversified ownership system. At present, there are 1,457 collectively-owned (production team) enterprises with some 110,000 workers and staff members in the reclamation areas, and the number of households supplying individual laborers has increased to more than 3,000.

These collective and individual economies are guided by state planning and subjected to the relevant state policies and rulings, and form an important component of as well as a necessary supplement to the reclamation area economy. These collective and individual economic units are mainly engaged in economic diversification, social services and small-scale processing of agricultural and animal products. Some of these activities take the form of independent management; others are integrated into contract with state farms and state pastures for cattle raising or for planting cash crops. Their forms of operation are many and varied, with wide adaptability.

In the past, the task of providing jobs for the sons and daughters of the workers was undertaken exclusively by the state. With the universal popularization of the system of production responsibility in various forms, the intensified enterprise reorganization, and organization of production according to a fixed number of workers and fixed quotas, such exclusive undertaking is no longer possible. Furthermore, the number of senior and junior secondary school graduates is continuing to increase. The emergence of collective and individual economies has opened a new avenue of job opportunities. Up to now, the collectively-owned enterprises have accommodated more than 27,200 sons and daughters of the workers, or 35.9 percent of the total number of job-awaiting youths. Reform of the economic structure with a single system of ownership has also provided favorable conditions for changing the system of a single form of business operation and for promoting the all-round development of economic diversification. Active development of collective economy in No 8510 Farm on the basis of local natural resources has not only provided job opportunities for 771 unemployed youths in the farm, but also enabled them to undertake more than

20 production projects which yielded a total output value of 650,000 yuan last year. The albumen powder fodder factory under the industrial company of No 93 Farm Administration Bureau has only 61 workers and staff members, but is capable of producing 2,260 tons of compound fodder each year with grass, bean cakes and chaff. Its product is well received by the consumers and is now sold outside the province. The collective and individual economic units engaged in commerce, food and drink service, or repairing and assembling are now filling the gaps left by state-run commerce.

These changes in the economic structure of reclamation areas deserve our attention. Wang Zhenyang [3769 2182 2254], party committee secretary and chief of the provincial General Farm Administration Bureau to the correspondent: "If all people in the reclamation areas are directing their efforts to state-run enterprises, the scope of their activities will become increasingly small, until finally they cocoon themselves like silkworms. There should be without exception a multi-level economy in all reclamation areas. We must pay simultaneous attention to state, collective and to a certain extent individual economies in order that there can be a broader scope for the development of the reclamation areas and greater vitality for the economy."

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RESPONSIBILITY SYSTEM EFFECTIVE IN HEILONGJIANG COUNTRYSIDE

Harbin HEILONGJIANG RIBAO in Chinese 11 Apr 82 p 1

[Article by HEILONGJIANG RIBAO correspondent: "Responsibility System in the Province More Effective This Year--Provincial Rural Work Department Comments on Situation After Introduction of Responsibility System"]

[Text] Commenting on the situation in the countryside after the introduction of the responsibility system recently, the provincial rural work department was of the opinion that the enforcement of this system this year should be more effective than it was last year, and that the trend of its development is healthy. At present, the all-around improvement of this system should be continued so that it could provide a more powerful impetus to the smooth progress of spring farming and production throughout the year.

By now, more than 90 percent of all production teams in the provinces have adopted various forms of responsibility systems. Compared with last year, it has now the following salient features: 1) The number of production teams adopting various forms of output responsibility system has been greatly increased, and these production teams account for 75 percent of the total number of production teams, an increase of 40 percent over last year. The proportion of those adopting the system of short-term contracts has dropped from 50 percent to 25 percent. More than one-half of all production teams have adopted the system of linking output with individual labor. In the fairly highly mechanized wheat and bean producing areas and in some production brigades conducting experiments in mechanization, including the farm machinery teams, there has been great development in various forms of output responsibility. According to statistics in the three prefectures of Heihe, Hejiang and Nianjiang, 44.6 percent of all farm machinery teams have adopted the system of output responsibility. 2) The substance of the responsibility system is now more comprehensive. This year, all localities have drawn their lessons from last year's experiences and are able to handle the combination of unified control, specialized skill and contracting more rationally. Planting plans, machinery, trucks, horses, major production expenses, farmland construction and the distribution of products were brought under unified control as they should be. In the method of contracting, there should generally be specialized skill before responsibility. All specialized jobs, such as those relating to farm machinery, farm animals, fertilizer accumulation, forestry, animal husbandry, sideline production, fishery and industry, should be contracted to persons with specialized skill. In handling the relationships of interests among the state, the collective and the individuals, the production teams had some problems last year, such as quotas being set too low, the free disposal of products, and improper ways of reward and punishment. This year, measures have been taken for improvement in these respects. 3) The responsibility system is more complete. Formerly, people thought that certain tasks, such as animal raising, financial management, agrotechnology, irrigation from wells with motor-driven pumps, logistic support, enterprises run by communes and production brigades and so forth might create problems for the responsibility system. This year, the responsibility system has been duly improved to handle these tasks. The contract system between science and technology on the one hand and production on the other has been greatly developed, and joint undertakings have developed from single to multiple projects. The responsibility system for paddy rice technicians has been popularized throughout the province. In Suihua Prefecture, the number of production teams practicing the system of contracts between science-technology and production is now 17.5 times that of last year. 4) Attention has been paid to the popularization of the contract system. Up to now, more than 30,000 production teams throughout the province have signed some million contracts. In the prefectures of Nianjiang and Suihua, 80 percent of all production teams have signed various types of contracts which are now being systematically reviewed.

However, some urgent problems are waiting to be solved in various localities. 1) The responsibility system is not being enforced in certain communes and production brigades. At present, 40 percent of the production teams have not signed any contract. In some production teams, the cadres only talk about responsibility system and have so far taken no concrete action of any kind to hold the contractor responsible. Some of them have signed short-term contracts, but some of these contracts do not specify any quotas, and there is no system of inspection or control set up. 2) The substance of responsibility system in certain localities is not comprehensive enough. In some production teams, the substance of the responsibility system is neither complete nor elaborate; in others, the proportion of labor power to the number of persons is irrational in dividing responsible plots, because the principle of giving primary consideration to labor power is not followed. Some production teams are only concerned with the commune members, and the production quotas are set too low. Some job responsibility systems for cadres are too complex and rewards are excessive. Some communes and production brigades pay attention only to the system of responsibility for field production but not to the related responsibilities. There are also some production teams which sign contracts without going through the proper procedures. The contents of their contracts are vague, and unified control is nonexistent. 3) In a small number of communes and production brigades, the problems of disregarding mass wishes and imposing "arbitrary uniformity" still exist. In certain production teams, leadership is abandoned and people seem to be on a sit-down strike.

Now that spring farming is forthcoming, all these urgent problems must be solved. First, we must sign proper contracts. This is the key factor in enforcing and stabilizing the responsibility system. Those production teams which have not yet practiced this system should quickly do so through the signing of contracts; those production teams in which the responsibility system has not been finalized should finalize it through the signing of contracts; and those in which the system has already been finalized should also confirm it in the form of contracts. Second, we must carefully review the responsibility system. Before spring sowing, all localities should organize their cadres to visit the communes and production brigades for a general inspection on the enforcement of the responsibility system, with particular stress on its practical enforcement; on the coordination of unified control, specialized skill and contracting; on the correct handling of relationships of interests among the state, the collective and the individuals; and on the contents of signed contracts, in order that whatever is found missing can be made up and whatever problem brought to light can be promptly solved. These measures will further improve the responsibility and contract systems. Third, leadership must be strengthened in setting up the responsibility system, and even more so in its enforcement. Therefore, we must plan our work more actively and scientifically. After all, we must help the basic level cadres learn to organize production through the use of contracts, to manage the collective economy effectively, and to build a modern agricultural base for the all-around development of cash crops and economic diversification, with commercial grain as the main item.

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BRIEFS

LIUZHUANG BRIGADE COMMENDED--On the eve of the party anniversary, the Xinxiang prefectural CCP Committee issued a notice commending the party branch of Liuzhuang Brigade in Xinxiang County, famous throughout the country, and 100 other progressive party branches and 296 outstanding party members. The common characteristics of these party branches and members are that they have seriously implemented the line, principles and policies laid down since the third plenary session, upheld the four basic principles, and scored outstanding successes in building socialist material and spiritual civilization. The prefectural CCP Committee calls on the grassroots party branches and party members throughout the prefecture to rapidly whip up an upsurge of comparing themselves with, learning from, catching up with and helping others. They should raise the emulation drive to a new level. [Text] [HK010533 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 30 Jun 82]

CSO: 4007/463

BRIEFS

COTTON PRODUCTION CONFERENCE--The Hubei Provincial Conference on cotton production which was recently held in Zhijiang County stressed that the key to striving for a bumper cotton harvest this year lies in strengthening middle- and final-stage field management. The conference pointed out that July, August and September are the decisive period for the growth of cotton. The conference demanded that all places do well in tending cotton at the middle and final stages. Field management includes application of manure on cotton, plant protection, combating natural disasters, making unified arrangements and taking grain and cotton production into consideration. [HK060206 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 1 Jul 82]

CSO: 4007/463

BRIEFS

PREFECTURAL SUMMER CROPS--Huaiyin Prefecture, Jiangsu, reaped good harvests from its 6.9 million mu of wheat, barley and naked barley this year, with the total output increasing by some 600 million jin compared with 1981. [OW150035 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 26 Jun 82]

HYBRID RICE--Jiangsu Province has achieved results in popularizing a hybrid rice. During the last 3 years, the province has planted about 10 million mu to this hybrid rice each year. Last year the crop gave an average yield of more than 800 jin per mu, or some 100 jin above the output of the ordinary variety. This means an increase of some 1 billion jin in the province's total rice production. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 4 Jun 82 OW]

CSO: 4007/463

BRIEFS

FLOODED COUNTY--By 26 June, the masses in Lean County, Jiangxi Province, saved 60,000 mu of various crops from the flood and repaired more than 600 water conservancy projects of various sizes. In addition, more than 400,000 jin of fine late rice seeds have been obtained by the county. The masses in the county will expand diversified farming operation to make up for the losses in grain crops. The county's financial department has appropriated 160,000 yuan for the repair of water conservancy facilities and bridges. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 28 Jun 82 OW]

CSO: 4007/463

BRIEFS

WHEAT OUTPUT--Bayannur League's 1.85 million mu of wheat is growing well in 1982. This league has expanded its wheat farming acreage by 125,000 mu. The output is expected to increase 10 percent. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 6 Jul 82 SK]

GRASSLAND SHELTERBELTS--The Xilin Gol League Forestry Bureau in Nei Monggol autonomous region succeeded in the experiment of planting trees in large areas of dry grasslands without any irrigation facilities. The bureau has built in Xianghua Banner 1,821 mu of grassland shelterbelts on 3 different types of soil. Elms, Chinese wolfberry and poplar trees were planted. Their survival rate was 75, 85 and 95 percent, respectively. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Jul 82 SK]

HERDSMEN'S INCOME--According to a survey of 51 herdsmen households, the average per capita income of herdsmen in 1981 was 315 yuan in Ju Ud League, Nei Monggol, an increase of 74 yuan over 1980. The income of herdsmen from the collective was 151 yuan per capita on the average, an increase of 48 yuan over 1980. The average income from household sideline occupations for each herdsman was 187 yuan, an increase of 34 percent. The average per capita expenditures paid in cash was 250 yuan. [SK070632 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 6 Jul 82]

CSO: 4007/463

WORK CONFERENCE DISCUSSES URBAN WATER PROBLEMS

Jinan DAZHONG RIBAO in Chinese 1 May 82 p 1

[Article: "Devote Attention to Urban Water Use in the Same Way as to Energy. Provincial Government Convenes Work Conference on Urban Water Utilization Throughout the Province. Demands Adherence to a Policy of Simultaneous Development of Resources and Conservation of Flow and Vigorous Solution of Problems in Urban Water Utilization"]

[Text] Recently the Provincial People's Government convened a work conference on urban water utilization throughout the province, which demanded that each municipality adhere to a policy of simultaneous emphasis on development of resources and conservation of flow, giving vigorous attention to urban water use in the same way as for energy, in order to make a contribution in promoting development of the national economy.

Comrades attending the conference conscientiously reviewed development of the province's urban water utilities and analyzed the current situation in supplying water. They acknowledged that the province's urban water supply utilities have grown rapidly and that capabilities to supply water have greatly increased, but that they are a very long way from being able to meet needs for the building of production and improving the people's standards of living. At the present time, 10 of the province's cities are daily 1 million tons of water short. Inadequate urban water supply has become a problem urgently requiring solution.

The conference recognized serious waste in the use of water as one of the main reasons for the water shortage in many cities. It asked that the entire party in all cities act, and that all the people mobilize to bring about a rapid upsurge in the conservation of water. The key in water conservation work lies in conservation of industrial water, particularly water consumption by the biggest industrial consumers. Industrial use of water accounts for more than 70 percent of urban water use, and water use by large industrial consumers accounts, in turn, for more than 70 percent of industrial water use. To take hold of conservation in the use of water by large industrial consumers is tantamount to leading a "bull by the nose." All enterprises are to treat water conservation in the same way as energy conservation, make it a part of technical restructuring plans, and vigorously promote new technology and new techniques for the conservation of water. They should go all out in the recycling of cooling water, in the recovery of waste water, in using the same water to do different things, and in combining the use of water to effect water savings. They should strive to increase the multiple utilization rate of water. All cities are to make improvements in the industrial multiple utilization rate for water a major method for solving urban water difficulties, so that within 2 or 3 years the multiple utilization rate will reach the more than 40 percent standard set by the state. Conservation of the use of water in daily life should also be diligently tackled and waste prevented. The "flat rate system" and "drinking water out of a large common pot" for water used in daily life has to be changed within a short period of time and meters installed in every household to register consumption for collection of fees.

The conference emphasized the need, while ferociously tackling water conservation, to arouse the enthusiasm of all quarters to devote major efforts to building new water sources and to expand capabilities to supply water as fundamental ways to solve urban water problems. They asked that all levels of leadership and units concerned make a decision to allocate funds for the building of new water sources in preference to the building of several plants. They should gain a clear understanding of ground water resources with all possible speed, draw up plans for building new water sources, and carry them out one by one over a period of time in order of importance and urgency. As regards funds for the building of new water sources, the initiative of the central government, local governments and enterprises should be brought into play in a cooperative effort to solve the problem.

The conference asked all levels of government to place on their important daily agendas solution of urban water problems, and to conduct regular study, assignment of resources, and inspection. Leaders responsible for industrial production should both look after the completion of production plans and economic quotas, and give attention to planned use of water and conservation in the use of water. All levels of design commissions, economic commissions, construction commissions, urban construction and water conservancy units should closely coordinate and work in concert to solve urban water problems.

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EDITORIAL URGES EQUITABLE USE OF URBAN WATER RESOURCES

Jinan DAZHONG RIBAO in Chinese 1 May 82 p 1

[Editorial: "Equitable Development and Use of Urban Water Resources"]

[Text] Water resources, like energy resources, are a part of the basic structure of the national economy, and are the principal factor restricting urban development. In a certain sense, water resources are even more important than energy resources. Equitable development and use of urban water resources is a major matter bearing on the national economy and the people's livelihood, and a strategic issue that should arouse a high degree of serious attention.

Shandong Province has very great accomplishments in the development and use of urban water resources. However, as a result of the past influence of "leftist" ideology and the longterm lack of centralized planning and management, development and use of water resources has been in a virtual state of anarchy, which has seriously damaged the regenerative capacity and balance of water resources, bringing about a situation of extreme shortage in urban water utilization. Change of this situation will require that efforts be devoted to equitable development and use of urban water resources.

Equitable development and use of urban water resources requires, first of all, increased awareness of the importance of water resources. Formerly it was generally believed that water resources were relatively abundant when, in fact, this was not so. Shandong Province is a water-short area. Current needs for water for industrial and agricultural production and for daily urban life are very greatly in excess of the total volume of useable water from above ground, underground, and from the Huang He. Given the present state of development of science and technology, nothing can take the place of water. Man has lived through times when there was no petroleum, electricity was not used, and there was a shortage of coal, but he has never lived for a single day in a world without water. How to develop and use such precious and limited water resources not only bears on urban construction and a secure life for the people, but also bears directly on development of the entire national economy. Hence it is necessary to highly treasure and equitably develop and fully use it.

Equitable development and use of urban water resources requires change in the former state of anarchy and the practice of centralized planning and centralized management. For a long time Shandong Province's urban water resources have not been centrally managed. Every unit using water has proceeded from its own needs, deciding for itself where and how it would tap water. In some cases, enterprises right next door to each other sank separate wells in competition for water, causing too much to be extracted and a large drop in the ground water table. Practice has shown that urban water resources are parts of a totality and that reckless and unbridled tapping of them must inevitably seriously damage the regenerative capabilities and balance of water resources. It should be clearly pointed out that ground water resources like soil, forests, and ore reserves, are not the property of a single unit but rather the property of the country. Thus they must come under centralized state management. This was not done in the past because of the influence of "leftist" ideology and mistakes we made in work. Unless urban water resources are brought under centralized management and serious attention given to overall planning and scientific tapping and use, continued destruction of water resources will be a great mistake that will adversely affect generations of posterity.

In urban development plans, equitable development and use of urban water resources must adhere to the principle of doing only what the quantity of available water permits. In urban contruction, water resources are one of our points of departure in considering problems. No matter whether planning, running industries or operating other enterprises, no matter what we do, this problem has to be considered. In undertaking a project, it is necessary to find out, first of all, whether water is available and how much of it, after which it can be decided whether or not to undertake the project and at what scale. If an industrial plant is built blindly without regard for water resources, the completed plant will be unable to go into operation. Not only will no benefit result, but the country's manpower, wealth, and material resources will have been wasted. We cannot perpetrate any more such stupidities. Every city should diligently study the lessons of experience in this regard and really proceed from improvement of economic benefits to handle matters in accordance with objective laws. In future until new water resources have been found to solve the problems of water-short cities, there should be no further construction of industrial projects that consume large quantities of water.

Serious waste of water is one of the major reasons why many cities are short of water. Conservation of the use of water is a major aspect of the equitable development and use of urban water resources, and it is also a way, requiring little investment, that is readily workable, and that shows results quickly for ameliorating and solving the current urban water shortage. We must widely publicize in every industrial and mining enterprise and among the people throughout the province, the importance of conservation in the use of water to establish a concept of water resources as an extremely precious thing. Conservation of water use should be given attention in the same way as conservation of coal, electricity, and petroleum, and particular attention should go to conservation by big industrial consumers of water, with efforts made to increase industry's multiple utilization rate for water. Effective work must be done in keeping clear water and waste water separate, in recycling water for use, and in combined use of water using the same water for many things. Where conditions permit, full use should be made of sea water and mineshaft water. Waste water, a potential energy resource, should be fully recovered for use. Economic methods must be used to strengthen management over the use of water so that the quantity of water used becomes closely linked to the economic welfare of the user. Conservation of water should be made a part of enterprise technical restructuring and energy conservation plans, and used as a major indicator in assessing enterprise management levels and administrative effectiveness. At the present time, the important value and position of water resources as well as the equitable development and use of urban water resources are becoming more and more a part of people's perceptions. Let us act positively and strive together to do an effective job in the equitable development and use of urban water resources to make a new contribution to building the four modernizations.

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WHEAT CARE POINTERS GIVEN ON EVE OF HARVEST

Jinan DAZHONG RIBAO in Chinese 1 May 82 p 1

[Article: "Make Further Efforts To Combat Drought To Protect the Wheat"]

[Text] A little more than a month still remains until the wheat is harvested, and this is a decisive period of time. This is the key period when the grain weight of the wheat will be decided, and it is also the period when various natural disasters are likely to occur. How well the fields are cared for will play a decisive role in whether the wheat harvest is a fat or a lean one. Past practice has shown that when good care is given during the late season, the per 1000 grain weight increases and output goes up. Conversely, output is seriously hurt. Consequently, we must assiduously summarize the lessons of experience in this regard and take greater action to do a good and intensive job of caring for the wheat during the late period, with no relaxation of care until a bumper harvest is in hand.

Effective late stage wheat care entails focusing on its great needs for water and fertilizer as a result of the current serious drought situation, and as a result of the large consumption of nutrients during its late growth stage. This requires earnest attention to watering to combat drought and to sensible top dressings of fertilizer to assure necessities for wheat growth. It also requires prompt hoeing to eliminate weeds and to loosen the soil to conserve soil moisture. As temperatures rise, outbreaks of wheat aphids, wheat rust, powdery mildew, and such diseases and insect pests will occur one after another, so pesticides and pesticide apparatus should be made ready and forecasting and reporting work should be intensified so that prompt prevention and control can be done upon discovery, and the diseases and insect pests wiped out when they first break out.

Hot dry winds are the major disaster to befall wheat in Shandong Province during the late season. They do much damage to output and require that watering for wheat ripening be done, or that petroleum growth promoters be sprayed, or that potassium dihydrogen phosphate be applied for active prevention to reduce damage insofar as possible. Additionally, in fields where individual plants are too numerous, making ventilation and light penetration poor and the stalks and stems spindly and weak, action must be taken to prevent lodging to guard against decreased yields.

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BRIEFS

AUTUMN CROPS--Having completed the sowing of over 50 million mu of autumn crops, cadres and the masses in Shandong Province's rural areas now shift their attention to field management and autumn farming. By the end of June, the province hoed 50 million mu of farmland, topdressed 37 million mu of fields and controlled insect pests on 28 million mu of fields. [SK052255 Jinan Shandong Provincial Service in Mandarin 2300 GMT 4 Jul 82]

WHEAT HARVESTING--Thanks to dry and hot winds and the fainfall in late May, the wheat crop throughout Shandong Province has ripened earlier than usual. The broad masses of rural cadres and the people are plunging into wheat harvesting. As of 5 June, the province has harvested over 17 million mu of the wheat crop. Heze and Linyi Prefectures and Zaozhuang Municipality have fulfilled their wheat harvesting task by 60-70 percent. [SK070637 Jin Shandong Provincial Service in Mandarin 2300 GMT 5 Jun 82]

WHEATFIELDS--Shandong Province has achieved good results in interplanting summer-sown crops with wheat on wheatfields. Some 20 million mu of summer-sown crops have been interplanted. Some 19 million mu were devoted to corn. This has created a favorable condition for a good autumn harvest. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 15 Jun 82 SK]

AUTUMN HARVEST MEETING--The Shandong Provincial CCP Committee recently held an emergency meeting urging efforts to pay close attention to summer planting and field management to enable a good autumn harvest to compensate for a decreased summer harvest. The provincial CCP Committee held that it is possible to overcome the decreased summer harvest with a good autumn harvest because grain output is two-thirds of the annual grain output, and spring-sown crops totaled 46.8 million mu in the province, 3 million mu more than in 1981, and seedling growth was good. The meeting called for efforts to guarantee grain areas while stabilizing the acreage of cotton, peanuts and tobacco; to plant more high-yield crops such as sweet potatoes resistant to drought and infertile soil; and to strengthen and improve responsibility system. [SK171009 Jinan Shandong Provincial Service in Mandarin 2300 GMT 15 Jun 82]

REMEDIAL PRODUCTION MEASURES--The CCP Committee and administrative office of Weifang Prefecture, Shandong Province, sponsored a wired broadcasting rally on 5 June, urging the people throughout the prefecture to grasp well summer harvesting and sowing in a timely manner and vigorously engage in summer farming in an effort to achieve a better autumn harvest to make up the loss of wheat output caused by the serious drought. To successfully fulfill the annual production plan, the rally urged counties under the prefecture to do a good job in strengthening the field management of corn crops and planting sweet potatoes. Over 1.4 million mu farmland from which wheat has been reaped in the prefecture should be planted with sweet potatoes on a crash basis. Efforts should be made to ensure a full stand of potato seedlings. Meanwhile, the rally urged localities to adopt every possible means to engage in the production of a diversified economy to increase their annual income as much as possible. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 5 Jun 82 SK]

CSO: 4007/463

ATTENTION DRAWN TO EROSION PROBLEMS IN CHANG JIANG BASIN

Shanghai WEN HUI BAO in Chinese 9 May 82 p 1

[Article: "Chang Jiang Basin Erosion Serious, Comprehensive On-the-Ground Investigation at 19 Counties in 10 Provinces and Regions Reveals. Experts Believe This Has Been Brought by Clearing of Steep Slopes and Severe Destruction of Ground Cover"]

[Text] Since 1958 erosion in the Chang Jiang basin has become increasingly serious, and the trend toward deterioration remains unhalted. Experts concerned from the Chang Jiang Basin Planning Office, the Chinese Academy of Sciences, and the Beijing Forestry Academy came to this conclusion following on-the-spot investigations at 19 key counties where erosion has taken place in the Chang Jiang River basin.

Beginning last October the Chang Jiang Basin Planning Office was entrusted by the National Agricultural Commission to organize more than 100 water and soil conservationists from provinces and regions concerned to take part in an on-the-spot investigation of key erosion areas in the Chang Jiang basin. This investigation lasted for more than 3 months. This was the first comprehensive scientific investigation of soil and water resources in the Chang Jiang basin that China has ever undertaken.

Results of the on-the-spot investigation showed serious erosion to have taken place in the basins of some of the tributaries of the Chang Jiang. Both banks of the Wu Jiang, a tributary of the Chang Jiang that flows through Guizhou Province, used to be densely covered with large, lush forests. Now, however, as a result of reckless cutting and denudation, many mountainlands have been turned into slabstone slopes where not even a blade of grass grows. Erosion in Sichuan Province is rather astounding. Last year 540 million tons of silt from this province flowed into the Chang Jiang. This is almost the equivalent of 10 million mu of cultivated land to a depth of more than 10 centimeters having been washed away. As a result of their on-site investigation of 19 counties in 10 provinces and regions, the experts discovered that the soil layer in these places was in process of gradually becoming infertile, and that some soil has already lost its value for use in agriculture.

Some of the experts who participated in the scientific on-the-spot investigation believe the main reasons for the increasingly serious erosion of the Chang Jiang basin lie in the clearing of steep slopes and severe destruction of ground cover. Because of mistakes made in our work and unplanned population growth in some places, tremendous pressures have been exerted on local agricultural production. This has led, in turn, to reckless cutting and denudation of forests and blind clearing of land in order to satisfy increasing requirements for the necessities of life such as grain rations and fuel.

The experts believe that comprehensive action must be taken to bring the problem of erosion in the Chang Jiang basin under control. In the Chang Jiang basin, temperatures are moderate, rainfall copious, and the restorative and regenerative powers of trees, bushes and grasses are rather strong. If strict action is taken to close off mountains to propagate forests, within 2 or 3 years time the vegetation cover rate for the Chang Jiang basin will very greatly increase.

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AGRICULTURAL DEVELOPMENT ATTRIBUTED TO RESPONSIBILITY SYSTEM

Taiyuan SHANXI RIBAO in Chinese 12 Apr 82 p 1

[Article by SHANXI RIBAO correspondent: "Excellent Situation of Agricultural Development in Our Province From Introduction of Responsibility System in Various Forms"]

[Text] The responsibility system in various forms has been basically adopted in our countryside, and major changes are now things of the past. The various forms of responsibility system are in the following proportions: Out of more than 126,000 accounting units in the province, 1.9 percent of them have adopted the system of paying remunerations according to short-term contracts; 5.4 percent, the system of remunerations according to the output of special farm work done; 11 percent, the system of unified management and paying remunerations according to output from individual labor; 1.5 percent, the system of unified management and paying remunerations according to the result of production groups; 9 percent, the system of unified management and fixing production quotas on the basis of households; 69 percent, the system of unified management and allotting work to individual households; 1.9 percent, the system of private plots and responsibility plots; and 0.3 percent, the other forms.

Last December, before the all-round improvement of the responsibility system, it was tentatively arranged that 36 percent of these accounting units should adopt the system of fixing production quotas on the basis of households or allotting work to individual households. This year, as we can see, these units have increased to 78 percent instead of being decreased. It shows that since the people are aware of the actual conditions, such a high proportion is practical and conforms to the present level of productive forces in most rural areas. It is not true that uniformity has been arbitrarily imposed on the responsibility system.

Implementation of the responsibility system this year has brought about an excellent situation in the development of the countryside. Fixing production quotas on the basis of households and allotting work to individual households are important components of the socialist rural economy, and this fact has been implicitly acknowledged by the cadres and commune members in the countryside. The misunderstanding on the part of some peasants who mistook allotting work to individuals for dividing up collective land for individual farming and so forth has been made clear, and they no longer fear that the responsibility system may soon be changed. Many concrete problems, such as the irrational distribution of plots to individuals, have been gradually solved. The people are now feeling at ease, and their enthusiasm, having been aroused, is being transformed into even greater material forces. More and more commune members have quietly bought fine strains, chemical fertilizers, machinery and other means of production by doubling or redoubling their investments in this year's expanded reproduction. "Greatly increased output" and "above-quota output" have become the common topics of conversation among the cadres and commune members. The cadres at the county, commune and production brigade levels have become more ideologically enlightened, and the conflicting ideas which existed among them last year have disappeared. The "leftist" ideas have been basically overcome. The party committees at various levels are now more experienced in organizing their leadership over the introduction of the responsibility system. Thus there is now a strong impetus to the development of an excellent situation in agricultural production.

Of course, there is still a great deal of work to be done in perfecting the responsibility system, and it is necessary for leaders at various localities to go deep among the basic level units for investigation and study in order to uncover problems and solve problems.

9411
CSO: 4007/419

BRIEFS

SPRING SOWING IN SHANXI--State plans for spring sowing in our province have been completed. According to statistics, the acreage of grain crops for spring sowing this year is 33,260,000 mu, an increase of 470,000 mu over last year; that of cotton, 3,699,000 mu, some 99,000 mu over the state plan; that of oil-bearing plants, 3,594,000 mu, an increase of 54,000 mu over last year; that of beetroots, 295,000 mu, an increase of 15,000 mu over the state plan; and that of tobacco, 100,000 mu, of which 115,000 mu has been initially completed. With a clear understanding of the principle that "planned economy should prevail and the regulation by the market can only be supplementary," the leaders at all levels and the broad masses have regarded arrangement of the crop pattern as a strategic task and adapted their measures to local conditions so as to bring the local strong points into play. That is why the state plans for spring sowing this year have been fairly well completed. [Text] [Taiyuan SHANXI RIBAO in Chinese 17 Apr 82 p 1] 9411

CSO: 4007/419

EMPHASIS PLACED ON PADDY RICE FOR GOOD GRAIN HARVEST

Chengdu SICHUAN RIBAO in Chinese 10 Apr 82 p 2

[Article by Cui Mingxin [1508 2494 2450]: "Pay Main Attention to Paddy Rice in Striving for Good Grain Harvest This Year"]

[Text] Paddy rice is the main spring grain crop in our province. Its acreage accounts for approximately one-third of the total grain acreage, and its output accounts for approximately one-half of the total grain output. It therefore occupies an important place in grain production. Giving full play to the strong points of paddy rice and accelerating the development of its production will certainly be an effective way for the province to maintain a steady increase in grain production.

First, we should carefully arrange the crop pattern and, if conditions permit, gradually expand its acreage. As shown by many years' experience, it would be practical to have a crop pattern with middle rice in the dominant position, if we take the situation of the whole province into account. Such a pattern will enable paddy rice to grow in the most favorable season and yield a bumper harvest. In eastern and southern Sichuan, where the weather is warm and sunlight and water resources are plentiful, it would be desirable to develop double crops of rice as a means of fully utilizing natural resources to increase rice output. The present distribution of paddy rice fields is basically rational and should remain unchanged in the near future. In recent years, some localities have made great efforts to raise the per-unit output and at the same time actively improved their irrigation facilities, expanded their farmland and increased their paddy rice acreage with good results in increased output. Santai County has done a great deal of work in water conservation since 1980, and in 1977, took strong measures to transform land into paddy fields. It has not only created the necessary conditions for raising the per-unit output but also expanded the paddy rice acreage every year. Thus in 5 years, more than 60,000 mu of dry land was transformed into paddy fields. In 1980, compared with 1976, the total paddy rice output increased by 61.2 percent, and its per-unit output reached 967 jin, an increase of 409 jin. The total grain output was increased by 46.9 percent, with an average progressive increase of 10.1 percent each year. Therefore, the planned and systematic expansion of paddy rice acreage will enable the province to make better use of our natural resources and accelerate the development of paddy rice production.

Second, we should actively popularize the use of hybrid rice and regular fine strains and take advantage of the latter's strong points. Every leap in the per-unit output of paddy rice in our province began with the use of some new fine strains. In the 1970's, the experiment in ternary bybrid was a success which marked a breakthrough in paddy rice production and raised the per-mu output to more than 1,000 jin in large areas. In 1981, more than 13 million mu was planted with bybrid rice in the province, and the average per-mu yield reached 901 jin. The use of hybrid rice alone enabled the province to raise its cereal output by more than 700 million jin. Of course, the scope for the use of hybrid rice is limited, because its use calls for suitable weather, water and fertilizer conditions, and a proper arrangement of crop order. Attention should be paid to the simultaneous popularization of both fine strains and good methods. In eastern and southern Sichuan, where the weather is hot and dry, it is particularly necessary that hybrid rice fields be well supplied with water, and the planting should be carried out with methods suitable to local conditions.

Regular rice does not have such a high per-unit output as that of hybrid rice, but the scope of its use is generally broader, and its acreage can be wider. In future, the proportion of regular rice to be planted should be fairly high. Therefore, we should popularize both hybrid rice and the regular fine strains. The old strains which contain impurities and have degenerated should be replaced by new high-yield strains in the course of popularization.

Third, we should greatly improve our planting techniques with particular attention to the cultivation of seedlings. Sturdy seedlings is an important condition for the increase of paddy rice output, and the remarkable rise in the per-unit output of paddy rice in our province in recent years was closely related to the improvement of our techniques in cultivating sturdy seedlings. If we want to further raise the per-unit output of paddy rice, we should further improve our planting techniques with particular attention to the cultivation of seedlings. Practice has shown that the method of nurturing seedlings in hothouses and then planting single stems in seedling fields for better tillering has many advantages, such as the ability to withstand unfavorable weather in the early spring and the higher speed of growing; early tillering and high elasticity of seedling age, with better quality and higher survival rate; the ability to avoid the effects of high temperature in the dry summer season and low temperature at a later stage, more ears, earlier maturity and higher yield; the advantage of leaving selected seedlings in seedling beds, which will help raise paddy rice output; and better utilization of labor in developing the tradition of intensive farming. This method of seedling cultivation should be popularized not only for hybrid rice, but also for regular middle rice planted in other types of fields. For early rice, the method of cultivating seedlings in hothouses or under plastic sheets should be widely used in order to keep the seedlings from rotting and to hasten the growth of paddy rice. This will also enable us to plant the late rice earlier and to raise its output. At the same time, attention should be paid to the scientific use of fertilizers, to rational close planting, and to the prevention of insect pests.

Fourth, we should strive to raise the output in the medium and low output areas so as to maintain a well balanced increase. The seven prefectures and municipalities in eastern and southern Sichuan are important paddy rice producing areas. Their rice acreage accounts for more than one-half of the total provincial acreage, and in the past several years, the restoration and development of paddy rice production were quite rapid. In 1981, the average per-mu output from more than 23 million mu in these seven prefectures and municipalities increased by 51 jin, and the total net increase was more than 1.2 billion jin. The rate of increase was more than 9 percent. At present the paddy rice output in most counties is at the medium or low level, and there is good potential for further increase. Although the river valleys are dry and hot, and the mountainous areas are cold with drizzles in eastern and southern Sichuan, there is always warm weather with abundant sunlight, water and other natural resources in most places. As long as the crop pattern is rational and proper methods are used in planting, it is entirely possible for the output to be raised by a wide margin. If the per-unit rice output in eastern and southern Sichuan can be raised to the average provincial level, the cereal output will be increased by more than 1.9 billion jin.

There are more than 6 million mu of rice fields in the 39 counties in the mountainous areas surrounding the plain in our province. The paddy rice output in most of these counties is still low. The natural climate and the conditions of production in these places are rather poor; however, as long as we take the realities in mountainous areas into account, follow the natural law, and combine traditional farming with agrotechnology, we can still obtain high yields. In the past, the seven mountainous counties in Ya'an Prefecture had about the same per-unit paddy rice output as that of the other mountainous counties. In recent years, these counties constantly explored the methods of raising paddy rice output and summed up their experiences in the light of the characteristics of mountainous areas, such as low temperature and scarcity of sunlight. After certain experiments, they actively popularized the use of hybrid rice and duly improved the methods of planting, with the result that paddy rice output was raised by a wide margin. In 1981, the average per-mu paddy rice output in these seven counties was 785 jin, or 84 jin higher than the provincial average. Among them, Hanyuan, Tianquan and Lushan counties had per-mu outputs of more than 800 jin, while Shimian County's was above 1,000 jin.

Paddy rice production in our province has entered a new stage of development, and the prospects are very bright. As long as we provide more active leadership, rely on correct policies and science, and take various realistic key measures, a sustained increase in the output of paddy rice is entirely possible.

9411
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MEASURES TO FIGHT DROUGHT SURVEYED

Tianjin TIANJIN RIBAO in Chinese 8 May 82 p 1

[Article: "The Fight Against Drought--Focus of All Rural Work"]

[Text] A spring farming and production campaign focusing on the fight against drought to assure vegetables, to assure the summer harvest, and to assure spring sowing is now being urgently conducted in the suburbs of Tianjin and in the rural villages of the county. Throughout the municipality's rural villages, the broad masses of cadres and people are sinking wells along the edges of fields, digging ditches, leveling the land, and diverting water. Between the lunar new year and the present time, 868 new wells have been sunk, 888 have been equipped, and 1,033 decrepit wells have been put back into production. More than 400 spray irrigation machines have gone into operation, and more than 120,000 meters of ditches have been repaired to prevent leaks. In addition, more than 11,000 pump wells have gone into operation and temporary pump sites have been set up at more than 2,000 sites. As a result, despite the serious drought situation, 1.14 million mu of wheatfields in the municipality's rural villages have been watered, 890,000 mu of unplanted fields have received a spring watering, and 1.23 million mu of open field crops have been sown.

As a result of 3 consecutive years of serious drought, the municipality's difficulties in agricultural production have become increasingly great. Right now there is virtually no water available for use above ground in rural villages throughout the municipality, and the ground water table has dropped everywhere. Volume of water from pump wells has greatly decreased, and more than 6,000 pump wells either are no longer able to produce water or produce only half the full rate. In addition, the high temperatures and strong winds since the lunar new year have caused a great amount of evaporation and loss of soil moisture. The amount of moisture deficient soil increases daily. The increasing drought situation seriously threatens both normal growth of crops to be harvested during the summer and uninterrupted spring sowing. Unless a soaking rain soon falls, harvest of 700,000 mu of the municipality's 2.2 million mu of summer grain crops cannot be assured. Of the 4 million mu to be sown during the spring, 1.8 million mu will not be sown on time, and because of the loss of soil moisture in the open fields that have already been sown, a full stand of crops cannot be readily assured. Therefore, an urgent task now facing the broad masses of cadres and people in the rural villages of Tianjin Municipality is to fight effectively the fight for spring farming and production centering on the fight against drought to assure vegetables, to assure the summer harvest, and to assure spring planting.

Beginning now, all rural work must center around and be subordinate to this focus on the fight against drought.

First it is necessary to inculcate a mentality of a fight against great drought and great disaster to win a bumper harvest, to guard against and overcome feelings of pessimism and fear of difficulties on the part of some cadres and a situation of letting matters take their course. While fully calculating difficulties, we must be aware of the advantageous conditions for victory over drought: The programs and policies that have ensued from the Third Plenary Session [of the 11th Party Central Committee] have sunk deeply into people's minds, and implementation of agricultural production systems of responsibility, in particular, have aroused the enthusiasm of the broad masses of cadres and people. The degree of farm mechanization in Tianjin Municipality is fairly high; water conservancy facilities are fairly complete; and material conditions for fighting against drought are also good. In the course of several years of struggle against drought, leaders at all levels and the broad masses have accumulated experiences in triumph over disaster to win bumper harvests for the year as a whole, with the summer harvest supplementing the autumn harvest, and the autumn harvest supplementing the summer harvest, etc. We must make full use of these advantageous conditions to actively overcome disadvantageous factors, to strengthen our confidence, and to do an effective job in "one combat and three assurances."

Second is the need to genuinely strengthen leadership of work to combat drought. This is crucial to winning victory in the struggle against drought. Leadership cadres at all levels are to devote their main energies to the struggle against drought. Ranking prefecture and county leaders, the infirm and those carrying out daily duties excepted, are to go down into the frontlines of the fight against drought to assign individual work tasks, to fix responsibilities, and to do everything possible. For communes and brigades in which the drought situation is serious, difficulties numerous, and production potential fairly great, particular attention should go to the transfer of competent cadres who can help solve conceptual problems and actual problems in fighting drought. In addition, it is necessary to stabilize and perfect production responsibility systems, giving attention to this as a major action in the fight against drought.

Third is the need to arouse the masses and take a firm grip on implementation of measures to fight drought. Right now the above ground water situation is utterly hopeless, so we must arouse the masses to vigorous tapping of ground water resources. Practice in many communes and brigades has shown that large-scale sinking of guozhui [6938 6923] wells, intube [2252 4619] wells, yaba [1090 2116] wells, and dug wells, and the digging down into rivers or deepening of ditches are all effective means of opening up water sources and launching struggle against drought. Additionally, attention has to be directed to the renovation, equipping, and maintenance of existing pump wells to increase the volume of water produced and increase benefits from individual wells. Wuqing County installed mechanical pumps, changed pump diameters, tightly sealed the pipe going down inside the mouth of wells, and renovated equipment to increase water lift, 497 wells thereby providing benefits to the full. This merits emulation. For those communes and brigades having requisite conditions, installation of some spray irrigation equipment should also be urged as well as the installation and repair of ditches to prevent leaks. In short, the masses should be fully aroused and relied upon, and every available means used to tap ground water sources.

Only slightly more than a month remains until summer harvest, and the time for spring sowing is also extremely pressing. Opportunities cannot be lost and the time will not return again. We must be sure to grasp firmly the opportune time, and take firm hold of wheatfield care and spring sowing. Places having water resources should give priority to the watering of wheat; 1 more mu watered makes 1 mu more. Additionally, much effort should go to spring sowing and interplanting to lay a good foundation for the autumn crop to supplement the summer crop. All vigorous actions should be taken to plant whatever ground can be planted, and when planting genuinely cannot be done, preparations should be made to change from spring to summer planting.

Industrial, transportation, financial and trade units are to vigorously support the fight against drought. They must do urgently whatever is urgently required to fight drought, supply whatever is needed to fight drought, and increase work efficiency, contributing their strength to fighting disaster to win a bumper harvest.

9432
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BRIEFS

PEASANT INCOME--Average net income per Xizang peasant and herdsman from the collective distribution last year was 162 yuan, an increase of 35 yuan over 1979. According to statistics, each peasant and herdsman also earned an average of 38 yuan from domestic sideline occupations, thus earning a total of 200 yuan, a record for the region. [Lhasa Xizang Regional Service in Mandarin 0000 GMT 3 Jul 82 HK]

CSO: 4007/463

ZHEJIANG

SHAOXING MUNICIPALITY GRAIN PRODUCTION INCREASE URGED

Hangzhou ZHEJIANG RIBAO in Chinese 3 Apr 82 pp 1, 3

[Article: "Establishing Measures To Emphasize Agriculture in Many Aspects, Shaoxing City's Communes and Brigades Encourage Farmers To Increase Output of Food Grains"]

[Text] Many communes and brigades in the farm villages of Shaoxing Municipality have implemented measures to emphasize agriculture in many aspects and have realized visible results. These measures to emphasize agriculture were carried out, starting from last year, to stabilize the foundation of agriculture and to guarantee stable increases in food grains production.

As sideline production of the communes and brigades develops, the labor force in the farm villages in Shaoxing City has continued to leave agriculture. Commune members engaged in farming must complete the tasks of unified procurement and assigned procurement of agricultural and sideline products for the state, and they must also solve the problems of providing food and firewood for industrial and sideline workers, who constitute 52 percent of the total labor force of the farm villages in the whole city. The working conditions, the economic gain, the welfare and salaries of industrial and sideline workers are generally better than those of commune members engaged in farming. This situation had seriously affected the enthusiasm of some cadres and farmers to increase the output of food grains. People wanted to work in the factories and leave the locality. The leading force on the frontline of agriculture and the labor force needed could not be guaranteed. To stabilize the foundation of agriculture and guarantee increased growth in food grains production, many communes and brigades in the farm villages in Shaoxing City started out from the actual situation and implemented a series of measures and policies to encourage farmers to increase the output of food grains at the beginning of 1981.

While establishing the production responsibility system for each profession, the communes and brigades in Shaoxing City insisted on taking the farming team as the basic unit to balance the basic salary and the ratio of awards in other professions. To enable the commune members engaged in farming to receive generally the same salary for an equal amount of work as in other professions, and to keep the salary of the farming team not lower than that in other professions, many communes and brigades paid widespread attention to grasping the following four points in establishing the goals of the responsibility system and in accounting: One was that the goals of the responsibility system in agriculture provided greater leeway. The goals of the "knowing early" plans and the goals of the responsibility system were not established too far apart so that agricultural output could surpass the levels of the past. The second was that the basic salaries determined at the beginning of the year by each profession and the estimated number of awards were both balanced on the basis of agriculture. The third was that the many kinds of overtime pay and subsidies of commune and brigade enterprises were controlled to prevent commune members engaged in industrial work receiving higher actual salaries than commune members engaged in agriculture. The fourth was that because agricultural production was limited by climatic conditions and because business of some enterprises was influenced by market factors, some situations could not be foreseen. To avoid large differences in salary among the professions, the method of "limiting awards, using surplus income to make up for deficiencies" was implemented by the enterprises. In this way, commune members engaged in agriculture willingly engaged in agricultural work and their enthusiasm was very high.

In the use of profits submitted by the enterprises to the higher authorities, a part was used by the enterprises to expand reproduction, another part or most was combined with the total output of food grains, revenue from diversification and important links to increase output, and the profits were given to the brigades. In this way, one act produced two benefits. Commune members engaged in agriculture benefited from the profits given them by the enterprises, and food grains production was stimulated. Jiefang Commune allocated 70,000 yuan from the profits submitted by the commune enterprises to the higher authorities and gave the money to the production team for use in connection with total output of food grains, for use to establish links to increase yield, livestock production, and planned parenthood. The concrete method of allocating the funds was as follows: An amount of 33,290 yuan was given to increase total output of food grains. For each 100 jin of food grains produced by the production team, the production team could receive 8 fen 9 li in profit assigned to it by the commune. For every 100 jin of food grains over the goals of the responsibility system, the production team could receive a profit of 2 yuan 5 jiao assigned to it by the commune. In connection with increasing the accumulation of indigenous fertilizers, an award of 10,950 yuan was given according to the actual number of square meters of indigenous fertilizers accumulated per season. In connection with the overturning and tilling of grass fields, the quality of summer harvest, summer planting and progress, 4,760 yuan were awarded. In connection with the monetary amount of live hogs sold to the state, 4,900 yuan were awarded. In connection with the number of sows raised, 2,100 yuan were awarded. In connection with the goals of planned parenthood, 7,000 yuan were appropriated. The remaining 7,000 yuan were used as awards for cadres of the brigades and production teams of the whole commune and the heads of contract work groups who have completed the goals of the responsibility system of their post. Commune members engaged in agriculture received a profit of nearly 6 yuan per mu from commune enterprises. The assignment of profits by the brigades was similar to that provided by the communes. This forcefully mobilized the enthusiasm of the commune members engaged in agriculture. Last year, 102 of the 114 production teams of 25 brigades of this commune produced increased output. The total output increased by more than 1.257 million jin, an increase of 7.2 percent. The number of live hogs sold also surpassed the goals of the responsibility system established at the beginning of the year by 33.2 percent.

The number of laborers was determined by the area of the fields. The number of farm workers as a percentage of the total labor force was established by regulation. When the number of people engaged in industrial and sideline production in a commune member family surpasses a certain proportion, the family must pay a fee to supplement agriculture. Commune members who return to farm work are given a salary based on the actual number of work points earned. The Wuyun Brigade of Chengdong Commune has a silk weaving plant, a glass fiber plant, a gauze mask factory and a shipping team totaling nine industrial and sideline units. There was a shortage of workers. To guarantee that agriculture has a sufficient labor force, this brigade implemented the method of determining the size of the labor force according to the area of farmland at the beginning of last year. Ten workers were assigned to work on each 3.7 mu of paddy fields, and 60 percent of the number of workers per family had to engage in farming. The remaining 40 percent of workers of each family were allowed to engage in industrial and sideline production. Salaries were calculated for each family according to this ratio. Families with more than 40 percent of its members engaged in industrial work had to pay an equivalent annual fee of 48 yuan for every 10 workers to supplement agriculture. Families with more than 40 percent of its workers engaged in outside sideline production had to pay an equivalent annual fee of 120 yuan for every 10 workers to supplement agriculture. After implementing this measure, more than 40 people who had gone away blindly to engage in sideline production immediately returned to participate in agricultural production. The labor force for the frontline in agriculture was guaranteed. Cadres and commune members generally said: "Implementing the method of subsidizing agriculture has made people willing to engage in agriculture and industrial work. Agriculture is guaranteed and food grains can increase."

Management of the labor force was strengthened, and the policy of having people engaged in sideline production elsewhere to hand over their economic profits to the brigade was appropriately handled. The personal income of people of some commune brigades who are engaged in sideline production elsewhere is mostly much higher than that of commune members engaged in agriculture at the brigade. In the past, the methods of allowing the workers to hand over only a small portion of the wages to the brigade, of distributing total income according to a scale for equivalent labor within the brigade, and allowing the workers to hand over only a small portion of savings without sharing the social burden were implemented. The methods easily drove some commune members away from participating in farm work. Since the beginning of last year, each commune brigade implemented a method of appropriately increasing the portion of wages earned by people who were engaged in sideline production elsewhere to be handed over to the brigade, and ordering them to submit a part of their wages to offset social costs. The brigades also established regulations allowing people engaged in sideline production elsewhere to receive cash and material rations within the goals of contract production. Those who went elsewhere on their own were also subjected to economic sanctions. Brigades with more people who had gone elsewhere also improved their method of rationing food grains to increase the labor enthusiasm of the commune members engaged in agriculture.

A work post responsibility and awards system for cadres of brigades and production teams and heads of contract work teams was established. Cadres of brigades and production teams and heads of contract work teams generally remain at their work post and cannot go elsewhere to earn extra money. To encourage them to remain and do farm work well, and especially to do the work of food grains production well, the whole city's commune brigades began to establish a work post responsibility and awards system for basic level cadres in farm villages beginning in 1979. Cadres of brigades and production team leaders who have completed the work post responsibility requirements well can receive an award of 20 to 50 yuan per year from the commune and the brigade. Last year, to stimulate cadres of brigades and the production teams to pay further attention to doing food grains production well, rules were established so that those who did not complete the task of the responsibility system in food grains production and those who did not lead in implementing and encouraging the policy of increasing the output of food grains were not awarded. This year, the work post responsibility system for cadres was again enlarged in scope to include heads of contract work teams. Now, most of the localities have implemented this measure.

In rationing materials, more benefits were given to commune members engaged in farming. To encourage the enthusiasm of increasing the output of food grains, more benefits in economic rations were given to commune members engaged in agriculture, and the spirit of emphasizing agriculture was also manifested in rationing food grains, edible oil and sideline products. Most commune brigades did the following: Industrial and sideline workers enjoyed only rations of food grains for contracted work. The rations received for that part of the work over the contract were given to the commune members engaged in farm work to enjoy. Industrial and sideline workers of some of the brigades receiving less food grain rations for contract work were allowed to enjoy a part of the rations for surplus output, but they had to purchase the rations at negotiated prices (the difference in price was generally paid for by the brigades or enterprises). The second was that at some commune enterprises, workers were allowed to enjoy food grain rations within the guideline for contract work. A part of what they received was provided according to food grain rations based on the amount of labor. The commune subsidized the difference in markup submitted by the enterprises to the commune and paid the production teams or subsidized the production teams according to a certain percentage of the basic wages of commune members engaged in industrial work. The third was that some brigades had more food grain rations according to the amount of labor performed within the guidelines of contract work, so they first withdrew a part of the rations according to the number of work points for engaging in farm work. The rest was shared by all agricultural and industrial sideline professions. The fourth was that some commune brigades had less land, and their tasks of food grains procurement were heavy.

Therefore, the basic rations of food grains were appropriately lowered (but not less than a per capita average of 450 jin) and the rations based on labor performed by commune members engaged in farming were increased.

Measures to increase agricultural output which have a higher cost but which have produced visible results are subsidized by the commune brigades. In recent years, many commune brigades of this city implemented appropriate methods of subsidies by communes and brigades according to the needs to expand nylon cultivation of seedlings and to increase the application of phosphorous and potassium fertilizers to reduce the burden of the production teams and to stimulate the development of food grains production. The Guanshi Commune subsidized half of the expenses of the agricultural teams for 80 jin of phosphorous fertilizers and 10 jin of potassium fertilizers per mu. The Zhoujiawan Brigade of Taoan Commune subsidized half of the expenses of the agricultural team to purchase thin nylon sheets to expand nylon cultivation of seedlings.

9296
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BRIEFS

DIVERSIFIED ECONOMY--Jiaxing Prefecture, Zhejiang, actively develops diversified economy. During the first 4 months this year, the prefecture had procured 67 million yuan of farm and sideline products for the state, marking an increase of 16 percent as compared with that in the same period last year. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 24 Jun 82 OW]

PRODUCE TARGETS--As of the end of May, 182 million jin of barley, wheat, broad beans and peas had been purchased from Zhejiang Province meeting 36 percent of the total purchase target. At the same time, 80.05 million jin of rapeseeds had been purchased from the province; this was 3.5 million jin more than the purchase made by 31 May 1981. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 4 Jun 82 OW]

CSO: 4007/463

Pedology

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TITLE: "The Soil Regions of China"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 2, 1982 pp 97-109

TEXT OF ENGLISH ABSTRACT: The present paper deals with the principles and methods of regionalization of soils in China. The soil resources of the whole country may be delimitated into three high level categories, i.e., I. Great soil zone; 2. Soil zone; 3. Soil region.

First, the whole territory of China is divided into four great soil regions based on the main variation of soil features and natural environments, namely, I. Allitic great soil region (or ferrallitic great soil region); II. Siallitic great soil region; III. Arid great soil region; IV. Alpine great soil region.

Under these four great soil regions, different soil zones (or soil belts) are divided mainly according to the zonal soil types and their related bioclimatic conditions. The soil zone is further subdivided into soil regions. Each region

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

represents a different soil sequence and related landscape. The utilization, management and ameliorative measures in a soil region are generally similar. The delimitation of soil regions is as follows:

I Allitic great soil regions
    I_1 Latosol zone
        $I_1(_1)$ Phospho-calcic soil region of South China Sea Islands
        $I_1(_2)$ Latosol and mountain yellow earth region of southern Hainan Island
        $I_1(_3)$ Latosol and paddy soil region of southern Taiwan Island
        $I_1(_4)$ Latosol and paddy soil region of northern Hainan Island and Leizhou Peninsula
        $I_1(_5)$ Latosol and paddy soil region of Hekou and Xishuangbanna
    I_2 Lateritic red earth zone
        $I_2(_1)$ Lateritic red earth and paddy soil region of mountainous and hilly land of northern and mid-Taiwan
        $I_2(_2)$ Lateritic red earth and paddy soil region of mountainous and hilly land of southern China
        $I_2(_3)$ Paddy soil and lateritic red earth region of the Zhujiang Delta
        $I_2(_4)$ Rendzina and lateritic soil region of Wenshan-Debao (eastern Guangxi
        $I_2(_5)$ Lateritic red earth and torrid red soil region of southern Mt Hengduan

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

- I_3 Red earth and yellow earth zone
  - I_3(1) Red earth, yellow earth and paddy soil region of Jiang Nan (south of the Changjiang River) mountainous land
  - I_3(2) Rendzina and red earth region of central Guangxi and southern Guizhou
  - I_3(3) Red earth and paddy soil region of Yunnan Plateau
  - I_3(4) Red earth and paddy soil region of Jiang Nan (south of the Changjiang River) hilly land
  - I_3(5) Paddy soil region of Poyang Lake
  - I_3(6) Paddy soil region of Dongting Lake
  - I_3(7) Yellow earth, rendzina and paddy soil region of surrounding mountains of the Sichuan Basin and Guizhou Plateau
  - I_3(8) Purplish soil and paddy soil region of Sichuan Basin
  - I_3(9) Paddy soil region of Chengdu Plain
  - I_3(10) Red earth and yellow earth region of Zayü-Mêdog (southeastern Tibet
- I_4 Yellow brown earth and yellow cinnamon soil zone
  - I_4(1) Paddy soil region of the lower and middle Changjiang valley
  - I_4(2) Yellow brown earth and paddy soil region of the Changjiang-Huai River hilly land
  - I_4(3) Yellow brown earth and paddy soil region of the Dabie (northern Anhui) and Dahong (northern Hubei) mountains

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

  - I_4(4) Paddy soil and gray fluvo-aquic soil region of the Changjiang-Han river plain
  - I_4(5) Yellow brown earth region of the Xiangyang valley
  - I_4(6) Yellow cinnamon soil region of the Hanzhong and Ankang Basin

- II Siallitic great soil region
  - II_1 Brown earth, cinnamon soil and dark loessal soil zone
    - II_1(1) Brown earth region of the Shandong-Liaodong peninsulas
    - II_1(2) Fluvo-aquic soil and saline alkaline soil region of north China alluvial plain
    - II_1(3) Fluvo-aquic soil region of lower Liao River plain
    - II_1(4) Brown earth and cinnamon soil region of the Qinling-Funiu mountains and Nanyang Basin
    - II_1(5) Cinnamon soil, brown earth and skeletal cinnamon soil region of north China mountains
    - II_1(6) Fluvo-aquic soil, cumulative cinnamon soil and cinnamon soil region of the Fen and Wei River valleys
    - II_1(7) Loessal soil and dark loessal soil region of loessal plateau
  - II_2 Dark brown earth, phaiozem and chernozem zone
    - II_2(1) Dark brown earth, dark meadow soil and planosol region of Changbai Mountain
    - II_2(2) Dark brown earth and phaiozem region of the Hinggan Mountains

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

- $\mathrm{II}_{2(3)}$ Dark meadow soil, planosol and bog soil region of three river plain
- $\mathrm{II}_{2(4)}$ Phaiozem and planosol region of the eastern Songhua and Liao River plain
- $\mathrm{II}_{2(5)}$ Irrigated cumulative soil and aeolian soil region of the upper Liao River plain
- $\mathrm{II}_{2(6)}$ Chernozem and dark meadow soil region of the western Songhua and Liao River plain
- $\mathrm{II}_{2(7)}$ Chernozem and dark chestnut soil region of the western Da Higgan Mountains

II_3 Podsolic soil zone of the northern Da Hinggan mountains

III Arid great soil region
- III_1 Kastanozem-brown pedocal and sierozem zone
  - $\mathrm{III}_{1(1)}$ Kastanozem, saline-alkaline soil and aeolian arenosol region of Nei Monggol Plateau
  - $\mathrm{III}_{1(2)}$ Brown pedocal, kastanozem and gray cinnamon soil region of the Daqing and Helan Mountains
  - $\mathrm{III}_{1(3)}$ Irrigated cumulative soil and saline-alkaline soil region of the central Yellow River irrigated land
  - $\mathrm{III}_{1(4)}$ Aeolian arenosol, kastanozem and brown pedocal region of Ih Ju Meng Plateau

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

- $\mathrm{III}_{1(5)}$ Brown pedocal region of western Mongolian plateau
- $\mathrm{III}_{1(6)}$ Sierozem and loessal soil region of western loessal plateau
- $\mathrm{III}_{1(7)}$ Sierozem and kastanozem region of eastern Qinghai Plateau

III_2 Gray brown desert soil zone
- $\mathrm{III}_{2(1)}$ Gray brown desert soil and aeolian arenosol region of Alxa Plateau
- $\mathrm{III}_{2(2)}$ Aeolian arenosol, gray desert soil and gray brown desert soil region of Junggar Basin
- $\mathrm{III}_{2(3)}$ Sierozem, gray desert soil, irrigated cumulative soil and solonchak region of piedmont of the northern Tianshan Mountains and Yining Basin
- $\mathrm{III}_{2(4)}$ Gray forest soil and subalpine soil region of the Altay Mountains
- $\mathrm{III}_{2(5)}$ Gray cinnamon soil, subalpine soil and brown pedocal region of the Tianshan Mountains

III_3 Brown desert soil zone
- $\mathrm{III}_{3(1)}$ Brown desert soil and irrigated cumulative soil region of Hexi corridor
- $\mathrm{III}_{3(2)}$ Alpine meadow soil, brown desert soil and solochak region of the Qilian Mountains and Qaidam Basin

[Continuation of TURANG XUEBAO No 2, 1982 pp 97-109]

- III$_{3(3)}$ Brown desert soil and aeolian arenosol region of Tarim Basin
- III$_{3(4)}$ Irrigated cumulative soil, brown desert soil and solonchak region of periphery of Tarim Basin

- IV Alpine great soil region
  - IV$_1$ Subalpine meadow soil zone
    - IV$_{1(1)}$ Subalpine soil and bog soil region of Songpan-Markam Plateau
    - IV$_{1(2)}$ Subalpine soil and mountain shrubby soil region of Garze-Qamdo
  - IV$_2$ Subalpine steppe soil zone
    - IV$_{2(1)}$ Mountain shrubby soil region of the Yarlung Zangbo valley
    - IV$_{2(2)}$ Subalpine soil region of northern slope of the Himalaya Mountains
    - IV$_{2(3)}$ Subalpine soil region of western Himalaya Mountains
  - IV$_3$ Alpine meadow soil zone
  - IV$_4$ Alpine steppe soil zone
  - IV$_5$ Alpine desert soil zone

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TITLE: "The Agro-ecological Characteristics and Regionalization of the Tai Lake Region"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 2, 1982 pp 110-121

TEXT OF ENGLISH ABSTRACT: The Tai Lake region, lying on the Changjiang and Qiantang delta at the juncture of the north and central subtropics, is an independent agro-ecological region. Through thousands of years of human activities of agricultural practice, this region started from its ecological stage of soil swamping, through the stages of polder farming, cropping of rice and wheat, to a stage of coexisting multiple systems of agriculture, forestry, fisheries and sericulture. An efficient and functional agro-ecological system with stable structure and high resistibility to natural calamities has been formed, which has led to the region's being developed to become one of the most notable integrated agricultural bases in China.

In recent years, a triple cropping system has been adopted extensively regardless of the local conditions, which has resulted in deterioration of soil environment and its

[Continuation of TURANG XUEBAO No 2, 1982 pp 110-121]

fertility. In order to improve this situation, it is necessary to study agro-ecological regionalization of this region. Based on a preliminary investigation in the Tai Lake Basin, four ecological regions are divided as follows:

1. The low mountain and hill region: Topographically, hills and mountains are predominant in the region with diversity of soil types. Side bleached paddy soil is predominant in the region. The fertility level of the soil in the region is closely related to its relief and irrigation conditions. Land utilization should be in accordance with the actual conditions. On the steeper hilly slopes with a thin soil layer, forestation should be the only method of land utilization. On the terraced fields with insufficient irrigation, a cropping system of rice-upland crops should be adopted, while on the paddy fields with good irrigation conditions a cropping system of rice-rice-winter crops may be the best pattern. Only on the fields nearby the villages or in open valleys can double cropping of rice or a triple cropping system of rice-rice winter crops be adopted, however, green manure crops should be arranged in the rotation system so as to maintain the soil fertility.

2. The Tai Lake plain region: This region is mainly located on the plain with a few low mountains and hills. Paddy fields are predominant. With plenty of ponds, lakes, streams and rivers, as well as mulberry groves and orchards, this region is known as a base of rice cultivation, fisheries and sericulture.

[Continuation of TURANG XUEBAO No 2, 1982 pp 110-121]

Although most parts of the region are plains, it is undulating in relief, and the topographical variation together with the difference in water regime, soil type, soil fertility and labor force constitutes the special natural and economic conditions of the region. Stagnating paddy soil is widespread in the region, so the cropping system of rice-wheat should be the main rotation system in combination with a proper proportion of a triple cropping system, while in the area occupied mainly by permeable paddy soil, the proportion of the triple cropping system may be greater.

3. The alluvial plain region: This region includes the alluvial plains along the Changjiang and Qiantang rivers. Percolating paddy soil suitable for the cropping system of rice-wheat-cotton is the major soil.

This ecological region is a production base of cotton, oil crops and cereals. Most of the soils are lower in fertility and sandy in texture. The rotation of rice and upland crops must rationally be arranged in accordance with the local conditions. In order to get high yield of cereal and cotton, it is recommended that green manure crops be grown or interplanted in the rotation system to improve soil fertility, and the triple cropping system should not take up too great a proportion so as to ensure the high production of cotton. At the same time, comprehensive development of forestry, fisheries and sideline productions should also be taken into account.

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4. Depression and polder land region: Through the long period of human activities, polder fields have been built on the depression area in this region. Crisscrossed by canals and rivers, this region has average elevation less than 4 meters above sea level. Waterlogged paddy soil is the predominant soil, and uplands heaped up by human activities are scattered over the region.

With the difference in microrelief, notable variation in fertility of paddy soils can be found in the region. Due to the development of the drainage system, part of the waterlogged paddy fields with one yield of rice annually has been replaced by the rotation of a double yield of rice and wheat.

However, the surface gleyization of soil is getting stronger because a triple cropping system of rice-rice-wheat is unduly adopted. For this reason, the adoption of a cropping system of double rice of a triple cropping system should be limited to the higher field with good drainage conditions.

The ecological conditions of this region are favorable for integrated development of agriculture and other industries. The mulberry or tangerine groves in combination with fishery pools have been developed in parts of the region, which is a very good system favorable for ecological cycling.

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TITLE: "Studies on the Fate of Nitrogen Fertilizer. I. The Fate of Nitrogen Fertilizer in Paddy Soils"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 2, 1982 pp 122-130

TEXT OF ENGLISH ABSTRACT: In both calcareous and noncalcareous paddy soils, the fate of urea, ammonium sulfate and ammonium bicarbonate was investigated in microplot experiments laid out in the rice fields using the ^{15}N tracer technique. The results obtained showed that when the N-fertilizers were surface-broadcasted as basal dressing, the recovery of ammonium bicarbonate was the lowest, while the N-loss was the greatest. The balance sheets of urea-N in the strongly calcareous, slightly acid and strongly acid paddy soils showed that the recoveries in rice plants were 22.3 percent, 27.5 percent and 39.8 percent, the N retained in soils was 30.4 percent, 18.6 percent and 16.4 percent, and the N deficits were 47.3 percent, 53.9 percent and 43.8 percent, respectively. In the two noncalcareous paddy soils, the recovery of ammonium sulfate amounted to 50.1 percent and 58.7 percent, but in a calcareous paddy soil it decreased to 22.5 percent. Obviously, the nitrogen loss through ammonia volatilization in the calcareous paddy soil may play

[Continuation of TURANG XUEBAO No 2, 1982 pp 122-130]

an important role in addition to denitrification. The deep-dressing of granulated urea and ammonium bicarbonate was the most effective method for the application of N-fertilizers. In addition, experiments also revealed that N-fertilizer top-dressed at the middle stage of rice growth gave a high recovery of about 60 percent by the rice plant. Experiments also showed that the loss of fertilizer nitrogen was not significantly affected either by temporary drainage at the vigorous tillering stage or by the application of nitrification inhibitor (CP).

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TITLE: "On the Silicon Supplying Capacity of Paddy Soils in South China"

SOURCE: Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 2, 1982 pp 131-140

TEXT OF ENGLISH ABSTRACT: This article deals with the silicon supplying capacity of paddy soils in south China.

1. The content of SiO_2 in the surface soil extracted by HAc-NaAc (pH 4) for soils with a 5 percent increase of rice yield due to application of Si-fertilizer was generally less than 9.5 mg per 100 g soil. For soils with more than 5 percent increase in rice yield due to application of Si-fertilizer, the critical percentage of SiO_2 in straw was usually less than 10 percent (at the ripe stage).

2. The Si-supplying capacity of paddy soils in south China is divided into three types:

[Continuation of TURANG XUEBAO No 2, 1982 pp 131-140]

The first type is the soil with a low level of Si-supplying capacity. The average available SiO_2 in soil of this type is less than 8 mg, and the SiO_2 in rice straw is about 8.5 percent. Application of Si-fertilizer to rice plants on soils of this type may give more than 5 percent increase in yield. This type includes paddy soils derived from granite, red sandstone and the Quaternary red clay occurring on the second terrace of the rolling hills.

The second type is the soil with a medium level of Si-supplying capacity. The available SiO_2 amounts to 12 mg, while the SiO_2 in plant straw is about 11 percent. The paddy soils derived from the Quaternary red clay occurring on the lower slope and valleys of hilly land belong to this type. When they are heavily dressed with nitrogen fertilizer, Si-fertilizer might give a yield increase.

The third type is the paddy soil with a high level of Si-supplying capacity. This type includes the paddy soils developed on lateritic soils of basalt origin, and those derived from lacustrine deposits and alluvial deposits of the delta regions. Generally the rice plant does not respond in yield to Si-fertilizer on soils of this type.

9717
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TITLE: "Status of Potassium Spply of Peaty Soil of Paddies in Jilin Province and the Effect of K-Fertilizer"

SOURCE: Beijing TURAN XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese Vol 19 No 2, May 82 pp 202-208

ABSTRACT: Paddy peaty soil is distributed mainly in the river plains and mountain ravines of the cold Temperate Zone of the Northeast, a low yield soil formed by cultivation of paddy rice in the reclamated ash soil or muck soil. About 2.32 million mu of such paddies are reported in Jilin Province, and 1.06 million mu are in Yanbian Prefecture. Some of these paddies have been used to cultivate rice for 120 years. The yield is generally 300 jin/mu. Problems of stunted seedlings, black withering disease, etc. occur every year. A research project was established in 1976 to study techniques of potassium deficiency diagnosis and potassium fertilizer application for the purpose of resolving the problems of peaty soil all over the province. Analysis reveals that the active potassium content of the topsoil of such

[continuation of TURAN XUEBAO Vol 19 No 2, 1982 pp 202-208]

paddies is only 4.7-8.6, amounting to 1/5 of that of river silt soil. Experimental application of potassium fertilizer (potassium chloride) produces yield increases of 6.7-123 percent. Analysis of the rice plants during various stages of the growth and development period reveals that the low yield condition is not obviously related to the nitrogen and phosphorus nutrition condtion. The physiological disorder of the rice plant induced by ferrous is also mild compared with the disorder induced by potassium deficiency. Application of 14-21 jin/mu of potassium fertilizer, especially during the jointing stage when the rice plant is most sensitive to potassium nutrition is recommended.

6248
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TITLE: "Economical Use of Water in the Cities"

SOURCE: Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, 1982 pp 4-6

ABSTRACT: Since the liberation, the city water supply in China, including separate water supply systems of industries, mines, and enterprises, has increased 20-fold compared with the supply level of 1949, yet many cities of the country still have a water shortage problem of various degrees. The problem is especially acute in the northern cities, such as Beijing, Tianjin, Dalian, Qingdao, Handan, etc. The continuous drought year after year in Beijing and Tianjin has made the problem extremely intense. The Miyun Reservoir can no longer deliver water to Tianjin and water is now brought in from Huanghe, several hundred km away. This paper explains that the problem of water shortage cannot be resolved by simply finding new source of supply. Industrial use of water amounts to about half of the consumption and a great deal of it is wasted. Ways must be found for industries to use the water repeatedly. At present, only 10 percent of the plants in the country are doing so. Public facilities, such as government offices, schools, etc. must check and repair the plumbing system to stop all leakage. Unified management of a city's water supply and wastewater disposal is also necessary for promoting effective control.

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TITLE: "Fully Utilize the Water Resource of Huanghe To Serve the Economic Construction of the North"

SOURCE: Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, 1982 pp 8-9

ABSTRACT: The water resource of Huanghe is not very rich but the river is very long. The average annual flow volume at Huayuankou Station is 56,000 million m^3, amounting to 40 percent of the total of the 3 rivers of Huanghe, Huaihe, and Haihe. According to actual measurement data, in a low year the flow volume of that station is at least 27,600 million m^3. Since the liberation, 7 large water conservancy stations have been completed on the main channel of Huanghe, with 138 reservoirs of all sizes. The effective irrigated acreage has been increased from 12 million mu to nearly 70 million mu. In the 10 years since 1972, the flow of Huanghe stopped in the low water stage of 7 years. This is not due to insufficient supply at the source, however. It is mainly due to the imbalance of distribution of rainfall and insufficient regulating capacity of reservoirs. In the near future, the paper suggests that economical use of irrigation water and construction of middle and lower reach control type projects are necessary. In the long run, the problem of transferring water of the south to the north must be seriously studied.

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TITLE: "Benefit of Water Conservancy Investments and Ways of Improving the Economic Benefits"

SOURCE: Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, 1982 pp 16-20

ABSTRACT: From 1950 to 1979, the total investment in water conservancy, including administrative expenditure, is 78.9 billion yuan. About 60 percent of the capital is used directly to serve agriculture, with 55 percent for irrigation and 5 percent for drainage, and only 3 percent for power generation. The sum is mainly allocated by the state, with a portion of it raised by local jurisdictions. The history of capital investment in water conservancy projects and some problem of waste, about 4-10 percent, are reviewed. The indirect waste must also include the destruction of forest coverage, especially at the sources of streams, unreasonable construction projects of dikes, fields, etc. to block the flow of streams, the random enclosure of lakes to enlarge the cropland, and the increasing severity of water pollution. These problems and the large number of disputes concerning the uses of water are mainly caused by the lack of centralized authority in matters of developing water resources. A series of measures are suggested to resolve these problems so as to improve the economic benefits of water conservancy investments.

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TITLE: "General Condition of Flood Prevention in 1981"

SOURCE: Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, 1982 pp 38-41

ABSTRACT: The special characteristic of the year 1981 was flooding in the west and drought in the east. In the lower Changjiang Valley, the rainfall in Jun is 30-60 percent less than a normal year. The drought condition is only casually mentioned, however. The bulk of the paper is devoted to descriptinns of the rainstorms, floodwater, and typhoons in the upper reaches of Changjiang, the upper reaches of Hanjiang and Huihe, the southern part of Liaoning, the Sanjiang Plain of Heilongjiang Province, the Zhujiang Valley, and the upper reaches of Huanghe. Damages from floods in various parts of the country are also reported. Finally, the paper summarizes briefly the lessons learned from the experience of fighting the floods of 1981.

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TITLE: "The Genesis, Damage, and Control of the July 1981 Flood of Sichuan"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 3-10

ABSTRACT: This issue of the journal is devoted entirely to a collection of papers which summarize scientifically the extraordinarily large flood of 1981 in Sichuan. From late Jun to the middle of Sep, the weather of the province was abnormal. According to the data of hydrological and meteorological departments, the temperature of the basin had been high, the vapor was abundant, the barometric pressure was low, and the atmosphere was in an unstable state just when the circulation above the Eurasian continent began to change to cause the southwestern high altitude vortex to spread into Sichuan and to encounter, later, the cold air invading Sichuan from the northwest. A localized vertical movement was thus created to bring the warm and moist air from near the ground surface upward to come to contact with the high altitude air mass and to condense quickly into torrential rains, more than 100 mm in an area of 1500 km^2 and more than 50 mm in an area of 6000 km^2. The rain of the storm center, Weiyuan County, was 157 mm. In recent years, Sichuan had been suffering from continuous and severe droughts, the areas of distribution of which were very

[continuation of SHUITU BAOCHI TONGBAO No 2, 1982 pp 3-10]

similar to those of the rainstorms of Jul 81. According to statistics of the various affected regions, the total direct loss from the rainstorms amounted to more than 2 billion yuan. The industries, agriculture, transportation, and mining were in serious danger and the entire national economy was threatened. As the aftermath of the rainstorms is being studied, the most serious damage is the washout of the top soil, estimated at 3.5 hundred million m^3. This loss has caused the soil of the slope-land to become very thin, and its fertility and drought-resistance are irrevocably reduced. The paper devotes the second half to discussions of the action and importance of water and soil conservation measures, such as forest protection and afforestation, for the prevention and control of flood damages.

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TITLE: "Relationship Between the Sichuan Flood and the Geological Background"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 30-36

ABSTRACT: Information of related departments reveals that in the past 500 years, there have been 132 floods in the valleys of Jialingjiang, Peijiang, and Tuojiang and 17 of these were severe. One of the major reasons for the increasing severity of flood damages is the serious destruction of forest cover to cause grave ecological imbalance. The forest coverage has been reduced from the above 19 percent of the 50's to below 10 percent in Sichuan, and to less than 1 percent in a few counties. Such complex factors as the crust movement, the geotectonic framework, the fold structures, the neotectonic movement, the special action of the lithological characteristic, and the variations of geomorphology are briefly stated . When these geological and geographical conditions are combined with the human activities of logging, farming, and construction and the natural phenomenon of rainstorms, landslides, mud-rock flows, ground fissures, and hillside collapses will occur to destroy engineer structures and to cause giant losses of lives and property. Although the flood calamities have the specially heavy rainstorms as the direct inducement because they raise the water table and increase the movement of subterranean water, the other factors form the background to create the disastrous losses.

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TITLE: "Protecting Environmental Resources to Develop Local Advantages"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 35-39, 29

ABSTRACT: The flood disaster of 1981 in Sichuan occurred mainly in the 200,000 km^2 of river valleys, where the population is dense, the transportation is convenient, the soils are fertile, and the production is rich. This paper attempts to explain why the flood disaster should be concentrated in this area to cause such severe damages. The answer is mainly that human activities have destroyed the environmental and natural resources to cause an ecological imbalance and to weaken the adversity resistance of the land. The paper urges that this painful experience must be summarized and the lesson learned. There should be an all out effort to afforest to increase the rate of vegetative coverage, to use engineering structures to reduce the force of floodwater, to harness and manage the rivers and streams, and to protect the environmental resources so that this very rich region may be reasonably developed and continuously utilized.

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TITLE: "The Genesis, Forecasting, Prevention, and Control of Landslide Caused by the Rainstorms in Sichuan"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 11-17

ABSTRACT: The continous rainstorms of 1981 in Sichuan caused landslides in 60,000 places of 90+ counties all over the province. More than 300 persons were killed, 74,000 rooms of houses collapsed, and 60,000 persons were made homeless. The mountains of Sichuan are lithologically soft and weak and compounded with the human factors of constructing fields on the slopes and of destroying the forest cover, landslides occur very easily during heavy rainstorms such as those of Jul 81. The paper compares landslides with earthquakes and suggests ways of predicting their occurrence. Prevention and control take a long time. Of the 570,000 km^2 of land in Sichuan, 70 percent are mountainous. The basic prevention and control work depends upon the emphasis of scientific education of the local people so that the work of landslide prevention may be carried out persistently and scientifically in order to produce lasting effects.

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TITLE: "A Preliminary Analysis of the Mud-rock Flow Damage in Sichuan and Its Development Tendency"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 18-25

ABSTRACT: In 1981, mud-rock flows were very active in Sichuan and their damages very severe. The distribution, the general history, the damage, and the principle of occurrence of mud-rock flows in the province are described, with tables and a map to demonstrate the extent of mud-rock flow activities in the various countires. In the 30 years of 1950-79, mud-rock flows caused by human actions, such as logging of forests, quarrying, mining minerals, building power stations, highways, and railways, as well as dikes, reservoirs, etc. have become much more frequent in an extent unseen before the 50's. And, they are becoming even more frequent and more damaging in the 70's. On the average, they now occur in cycles of about every 5 years.

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TITLE: "Protect Soil Resources so Mankind Can Eat"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 40-45

ABSTRACT: The current conditions of destruction of soil resources in Sichuan are described in terms of soil erosion, soil degeneration, soil pollution, and the diminishing situation of cropland (at a rate of 696.3 thousand mu per year, on the average.) In order that mankind will have food to eat (the sustained cropland reduction in the USA and England is made a part of discussion) the soil resources of Sichuan should be urgently protected. The paper suggests that soil and water conservation, the control of soil degeneration, an increase of application of organic fertilizer to improve soil fertility, and the improved management of the river terraces where the greatest damage occurred in the flood of Jul 81 are matters demanding immediate attention if the rich resources of Sichuan basin are to produce any more food.

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TITLE: "Take Care of Slope Cropland, Control Water and Soil Losses, to Promote Agricultural Production [in Sichuan]"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 2, Apr 82 pp 46-50

ABSTRACT: In the 3 months of Jul-Sep 81, the Sichuan Province suffered several disastrous rainstorms and floods and 12 million mu of cropland had been washed out. Of these 2.2 million mu were destroyed; more than 400,000 mu were turned into piles of rubble, difficult to be used to cultivate anything in the near future. The major reason of this calamity is the changes of atmospheric circulation, but after examination, the authors are profoundly aware that in the province, too little slope cropland was taken care of too slowly by too poor a quality of work. The ability of the region to resist natural calamities was very weak. The fact that the losses from this flood disaster were not successfully cut to a minimum is a bitter lesson. In Sichuan, there has been more than 20 years of experience of constructing and reconstructing the slope land. It is just that the determination was not great enough, there were attempts to do too much too fast, and the quality of the work was not sufficiently high. The paper summarizes the shortcomings of past jobs and suggests new ways of taking care of the cropland on the slopes.

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TITLE: "All Out Effort to Restore Vegetation to Safeguard the Ecological Equilibrum"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION]
in Chinese No 2, Apr 82 pp 51-57

ABSTRACT: Judging from the conditions in Sichuan, the increasing frequency of occurrence of such disasters as drought, flood, wind, and pests in such special severity as the summer flood of 81 is inseparable from the serious destruction of the vegetative cover. From the viewpoint of ecological equilibrum, the destruction of vegetation has brought about the following: (1) The lack of forests causes a reduction of mosture and leads to drought· (2) Without trees to slow down the runoff and to store water in the layer of fallen leaves, the ground surface is unprotected against torrential rains to result in serious losses of soil and water. (3) The losses of such forest animal, plant, and pharmaceutical resources are difficult to restore. The paper divides the province into 5 regions: the western highland, the western alpine and ravines, the southwestern river valleys, the marginal basin land, and the interior of the basin. Measures to restore the vegetation in each of these regions are suggested.

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I. GENERAL INFORMATION

ADVICE GIVEN ON IMPROVING FARM MACHINE ECONOMIC RESPONSIBILITY SYSTEM

Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 3, 1982 pp 6-7

[Article by Zhang Caide [1728 2088 1795], Maintenance Department, Ministry of State Farms and Land Reclamation: "Steady Perfection of Farm Machine Economic Responsibility Systems. Ten 'How To's' Once Farms Have Promoted Systems of Responsibility Whereby Responsibility for Farm Machines Is Assigned and Rewards Fixed"]

> [Text] Editors note: Today state farms everywhere have promoted a farm machine economic responsibility system founded on accountings for individual machines in which "contracting, fixeds, and rewards" are the main ingredients for an initial surmounting of tendencies toward egalitarianism in distributions. This has aroused the initiative of farm machines staff and workers, has promoted increased agricultural output and earnings, and has produced rather good economic results. Some new problems have also appeared in the process of implementation while, at the same time, all jurisdictions have also accumulated some new experiences. Diligent study and solution of problems is required. The writer of the present article gathered together and collated "10 how to's," which are provided farms everywhere for reference in perfection of farm machine economic responsibility systems.

1. Once Farms Have Instituted Production Responsibility Systems, How Is The Situation of "Machines Replacing Workers" To Be Handled?

Once farms have instituted production responsibility systems, from cadres to workers efforts are put into saving on expenditures, cutting costs, and giving attention to economic accounting. This is good. But some places onesidedly pit responsibility systems against farm machines, emphasizing great use of labor and requiring "less use of machine cultivation for greater year end distributions." This hurts the bringing into play of the role of farm machines. In order to make fullest use of the role of farm machines, Jiangxinsha Farm in Jiangsu Province did the following: 1) depreciated the fixed assets of individual farm machine farming teams, deducted a percentage for machinery overhauls, and distributed these sums to company size farm teams on the basis of the area farmed; 2) correspondingly lowered machine farming fee rates from the former 1 yuan per mu to 0.65 yuan per mu; 3) linked some of the bonuses of tractor personnel to farm teams, i.e. when farmland work quotas handed down by the farm headquarters have been fulfilled and quality of work meets requirements, 50 percent of the annual average per capita bonus at the local branch farm is withheld and is taken care of by the farm team. When year end amount of work completed and plan norms increase or decrease, bonuses proportionally increase or decrease with them. After deducting 20 percent for payment to higher authority as required when assuming sole responsibility, and after deducting 20 percent as a bonus for farm machine staff and workers, all the remaining farm cultivation team year end profits revert to farm teams on a prorated basis for the area they farmed by machine. Results have been quite good and the amount of machine farming has gone up by more than 20 percent.

2. What Is To Be Done When Small Team Management and Machine Farming Conflict?

In the process of instituting production responsibility system, inasmuch as farm teams use a production responsibility system of sub-group management linking remuneration to output whereby the same plot of land is managed by several small groups, the crops planted vary, planting methods and technical requirements differ, the times of field care are not identical, some use machines while others do not use machines, the machine farming efficiency rate and making the most of economic benefits are impaired. In order to solve such problems, Liangjiazi Farm in Liaoning Province used the "five uniforms" method: 1) Uniform crop varieties. They required all production teams to arrange crop structure on the basis of field plot soil quality and fertility, growing crops of the same variety within a single plot with no wasting of plots on the growing of flowers. 2) Uniform machine farming and technical measures. Machine farmed plots and projects were planned by production brigades. Within the same plot ridges ran in the same direction, rows and plants were the same distance apart; the same amount of sowing and fertilizing was done; and seeds were sown to the same depth. 3) Uniform field care. Thinning of seedlings, weeding, top dressings of fertilizer, plant protection, and such farm work requirements were all completed at the same time on any given plot by the work teams. 4) Uniform arrangements for tractors. Use and allocation of tractors was handled in a centralized manner by the production brigades, and work teams could not tranfer tractors at will. 5) Uniform examination and acceptance. Once work had been completed, each small team conducted a uniform examination and acceptance, and at the end of the year uniform accounting of tractor cultivation expenses was done. Use of the "five uniforms" solved conflicts between those who machine farmed and group management, increasing machine efficiency rates and economic benefits.

3. What Is To Be Done About Conflicts Between the Two Minds and the Two Sets of Account Books of Farm Teams and Farm Machine Teams That Arise Out of Use of Farm Machines For "Cultivating Land for Others" in Agriculture?

In addition to their practice of giving maintenance personnel bonuses for increasing income and economizing on expenses, the Xijiang Farm in Guangxi also practices the giving of bonuses on the basis of output. The proportion of these two kinds of bonuses is as follows: The bonus for increasing income and economizing on expenses is 30 percent, and the bonus linked to output is 70 percent. At year's end, those getting a bonus for increasing income and economizing on expenses withdraw 18 percent as a tractor operator's bonus from expense economizing bonus funds, the remaining 82 percent being proportionately parceled out to each work team on the basis of the amount of work done by tractors in each specialized team for an increase in their incomes. Withdrawal of bonuses linked to output is also done on the basis of the proportional amount of work done by tractors in each specialized unit. For example, if the annual per capita quota for each person in a maintenance squad is set at 2,000 standard mu, and 4,000 mu is done at team A during the year, at the end of the year specialized team A will have overfulfilled production and should be responsible for paying the bonus linked to output of two tractor operators. Since farm machine and agricultural economy benefits are mutually linked, both parties cooperate rather well and are mutually concerned about costs and output, so there is also mutual supervision and mutual assistance in the course of work.

4. What is to be done when identical quota critera are used for tractors, and fixed rewards are instituted for fixed output quotas, but because of differing tractor service lives and technical conditions, inequities result? An example is the inequity resulting when the drain on a caterpillar tractor operator's strength is greater and his work environment more arduous than that of a wheeled tractor driver, yet his bonus is frequently lower.

The 102 Regiment in Xinjiang Province considered tractor service life as most important and set up several categories in light of their technical condition, setting different standards for standard costs per mu. Caterpillar tractors, for instance, were put into three categories in terms of their service life of 1-5 years, 6-12 years, and more than 12 years for which standard costs per mu were set at 0.90 yuan, 1.00 yuan, and 1.05 yuan. For wheeled tractors of from 1 to 8 years of service life, standard profits per tractor per year were set at 1,800 yuan. For wheeled tractors with 9 years or more of service life, annual profits per tractor were set at 1,500 yuan. In addition, the proportional bonus to be given was set at 60 percent of the portion saved in the case of caterpillar tractors and 30 percent in the case of wheeled tractors, with the result that in 1980 average per capita bonus for caterpillar tractor drivers. This made caterpillar tractor personnel content to do strenuous field work, and this year quality of field work and rate of hours work have increased very greatly over last year.

5. Should Bonuses Be Given Individual Tractor Units That Have Overfulfilled Quotas When Tractor Brigades as a Whole Have Not Fulfilled Planned Quotas?

Should individual tractor teams be issued stipulated bonuses for overfulfillment of quotas and tractor teams that have not completed plan be penalized as stipulated when tractor plowing brigades as a whole have not completed plan quotas or have incurred losses, and where will the bonus funds come from? The method used by some farms in Jiangsu Province, including the Huaihai Farm, is as follows: 1) Payment out of previous year surpluses; 2) payment from wages that have been deducted for taking leave for illness or for staying away from work unauthorizedly; 3) payments from penalty payments for failure to fulfill quotas and fines for accidents; 4) payments from juggling of accounts, making withhouldings from the following year's funds to be circulated.

6. What Is To Be Done About Blacksmiths, Fitters, Carpenters, Welders and Such Logistics Personnel Once Tractor Team Personnel Institute Fixed Rewards for Fixed Output?

The 29 Regiment in Xinjiang Province changed the former bad practice for logistics personnel whereby there were no fixed worked quotas, no checks on quality, not accounting for costs, difficulty in judging achievements, and no basis for distribution. They instituted "three fixed and one reward" (fixed personnel, fixed work time, and fixed costs), i.e. considering as gross costs employees' wages, fuel expended, electricity expenses, and depreciation of tools and equipment, planning unit man hour expenses on the basis of stipulated number of days at work and man hours, using this as a standard for per man hour charges. When tractor units requested logistics personnel to do maintenance or repairs, they turned in a "maintenance and repair coupon" in lieu of payment of cash to be carried as income for the maintenance and repair units and as an expenditure for the tractor unit. Both parties verified the number of hours and quality of work, and when quality was below standard, the maintenance and repair team bore responsibility for man hour expenses. When maintenance and repair teams rendered assistance in the fields or in other positions, its earnings were figured on the man hour price rate for rendering assistance. For exceeding man hours or income quotas, or for any portion lacking, proportional points were recorded as a basis for distribution of overfulfillemnt bonuses and other bonuses. Four changes took place after this had been done: Where formerly leaders had to urge workers to do their work, now workers sought out leaders to ask for work. Where formerly workers sat around talking when there was no work to do, now whenever they had free time they went everyplace trying to scare up work. Where formerly there had been little concern about labor efficiency or quality, now every second counted and quality was first. Where formerly leaders had been very busy, now everyone was busy.

7. What Is To Be Done About Management Personnel Following Institution of Responsibility Systems of Fixed Reward for Fixed Output Quotas?

Zhongjie Farm in Hebei Province used a system whereby management personnel practiced a responsibility system linked to various economic criteria and work completion for calculation of bonuses and penalties. In this way all tasks were completed and units incurring losses for maintenance were fewer than the previous year, receiving bonuses at the average level of management personnel at the main farm. After fulfilling all production tasks, all maintenance units without losses received from 10 to 20 percent more bonus. When all tasks were not fulfilled, units with losses and units with units where losses were greater than in the previous year got 5 to 10 percent less bonus.

8. What Is To Be Done About Excess Workforces Following Institution of Farm Machine Economic Responsibility Systems?

Once responsibility systems have been instituted, farm machine staff and employee enthusiasm for care and use of farm machines greatly increases; not only is there a surplus of maintenance personnel following the fixing of the number of personnel and a table of organization, but there is also a great surplus of farm workers as a result of improvement in mechanization levels. At Liangjiazi Farm in Liaoning Province, there was a surplus workforce of more than 1,000 farm machinery related workers and farm workers. They did the following: 1) much agricultural capital construction, investing 270,000 man days, moving 340,000 cubic meters of earth and stone to stop waterlogging on a 22,000 mu area and to sink 35 pump wells; 2) planted trees to afforest 6,600 mu; 3) went in heavily for the livestock industry, expanding teams specializing in the raising of hogs, and building poultry and deer farms; 4) much operation of farm-run industries with an expansion and new construction of repair shops, brick and tile plants, paper plants, and two small collective industries. 5) development of households specializing in the raising of livestock, the number of households specializing in the raising of hogs, chickens, rabbits, sheep and goats now numbering 128. Chabei Livestock Farm in Hebei Province organized its surplus machine maintenance personnel for development of economic diversificiation, and a maintenance brigade from the first branch farm assumed responsibility for the repair of highways. The second branch farm's maintenance brigade undertook responsibility for readying and installing machinery in a powdered milk plant. The third branch farm's maintenance brigade contracted hauling of earth for use in daubing walls. Earnings for the first and second branch teams alone for the first half of the year came to 13,800 yuan, and machine maintenance expenses for the farm as a whole were more than 40,000 less that during the same period last year.

9. How Can Bonuses for Maintenance Personnel Be Equitably Withheld Once Systems of Responsibility Linking Output to Calculation of Bonuses Have Been Institued?

When some farms institute systems of responsibility in which output is linked to calculation of bonuses, they promote agricultural production increases through maintenance personnel fulfilling all work requirements in terms of quantity and quality, and they decide first, second, and third class bonuses for them after excess financial profits have been earned in the same way as for farm workers. But inasmuch as tractor units' work is scattered and the work they do not readily amenable to recognition, the work enthusiasm of tractor personnel is damaged. The 29th Regiment in Xinjiang Province based calculations on the number of days of work attendance, i.e. they used the total number of days of work attendance by maintenance personnel divided by the average number of days of work attendance of the unit to derive the average number of maintenance personnel attending work. Then they multiplied the average number of personnel attending work times the average amount of bonus each person in the unit should receive, i.e. the total amount of bonus each maintenance platoon should receive, after which they distributed bonuses to individuals on the basis of number of days they showed up for work and fulfillment of their tractor quotas. This method of figuring was able to embody in an equitable way both the amount of labor expended by maintenance personnel and the results of their labor.

10. How Can Farm Machine Economic Responsibility Systems Promote Transition Toward Specialization in the Farming Industry?

The 129 Regiment in Xinjiang Province tried out farm machine economic responsibility systems linking bonuses to output that featured machines and specialized contracting. By this is meant farm machine personnel were responsible for the growing of grain crops, accepted output and profit norms handed down by the regimental farm, and were proportionally rewarded or penalized in accordance with regimental regulations. In 1980, the 15 companies of the regiment had 32 farm machine personnel who, in addition to being responsible for the farming of 2,200 mu of cotton, were also directly responsible for 4,152 mu of grain crops from which yields averaged 412.6 jin per mu, 9.2 percent higher than plan norms. Output totaled 1,733,000 jin, an average grain output of 54,156 jin per capita. From a 1,130 yuan loss on grain crops in 1979, the situation changed to a profit of 34,508 yuan, an average per capita profit of 1,078 yuan. In 1981, contracting for 5,195 mu of grain crops was continued, as was the contracting for 220 mu of cotton. Grain output is forecast at 21.8 million jin and ginned cotton at 30,800 jin for a 43,636 yuan profit. When 60,000 yuan in earnings for the use of tractors in helping with work and hauling elsewhere is added to this, total profits come to more than 100,000 yuan, double the 1980 figure. Grain output averaged 62,200 jin per capita and profits set a record 2,565 yuan per capita. Such a responsibility system can foster farm machine personnel able to both operate tractors and to farm the fields, thereby further increasing the potential of existing equipment, increasing the labor productivity rate, and helping the transition to specialization of farming.

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NEW TASKS FOR FARM MECHANIZATION OUTLINED

Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 3, 1982 pp 5, 12

[Article by Maintenance Department, Ministry of State FArms and Land Reclamation: "New Tasks for the Agricultural Mechanization of State Farms"]

[Text] National state farm management work forums were held during September and December 1981 at Dongxin Farm in Jiangsu Province (the southern section) and in Beijing (the northern section). Delegates to the forums reported on the new situation of steady development of agricultural mechanization work through reorganization and major equipping while carrying out the program of readjustment. They also reported on new achievements and new experiences gained during the last several years in the strengthening of farm machine management and promotion of farm machine economic responsibility systems. They studied new problems and new tasks under new conditions involving farm machine work. They also conducted discussions of individual topics relating to issues such as systems, regulations and technical policies pertaining to "Regulations on State Farm Maintenance Work," "Agricultural Mechanization Technical and Economic Criteria and Accounting Methods," "Provisional Regulations on Scrapping of Agricultural Machines, Agricultural Machines and Equipment Principles," as well as to depreciation of farm machines and equipment, withholdings of funds for major overhaul and replacement and farm machine economic responsibility systems. The conferees exchanged experiences and studied methods, which strengthened their confidence about further strengthening of leadership and management of farm machine work, about making the most of advantages in mechanized farm production, and about improving economic benefits from farm machine operations. Deputy ministers Zhao Fan [6392 0416] and Meng Xiande [1322 2009 1795] also made reports to the forums on the strengthening of farm mechanization leadership work, which greatly encouraged everybody.

The forum acknowledged that since the Third Plenary Session of the 11th Party Central Committee, as a result of reliance on policies and reliance on science for development of productivity, beginning in 1979 state farms throughout the country began to bring to an end the loss situation that had endured for more than 10 years, agricultural mechanization playing a major role in this. A comparison of 1980 with 1978 in the Heilongjiang Provincial Farm Administration show a more than 5 million mu increase in area sown, and a more than 40 million yuan reduction in total expenditures for machine operations. In 1981 the leading leadership comrades in the Xinjiang State Farm and Land Reclamation Administration placed great stress on carrying out regulations on maintenance work, increasing earnings, and conserving expenses to the tune of more than 17 million yuan in a period of less than 10 months, making a major contribution in turning losses into profits.

Accompanying implementation of the party's various economic policies has been the adaptation of general methods to specific situations by state farms everywhere to build and perfect various forms of farm machine economic responsibility systems, linking the workers' rights and responsibilities closely to economic benefits, thereby arousing the enthusiasm for production of the broad masses of staff and employees for a new situation of increased output, increased earnings, and increased contributions. After 29 regimental farms in Xinjiang Province instituted farm machine economic responsibility systems, four great changes occurred. One was that where formerly leaders urged workers to work, now the workers came looking for leaders to ask for work. Second, formerly when there was no work to do, everybody sat around talking, but now whenever there is a moment's free time, they go all over trying to scare up some work. Third, where formerly people did not take seriously work efficiecy or quality, now they make every second count and quality is first. Fourth, where leaders were up to their ears in work while workers stood at the side and watched, now everybody is busy actively making a contribution.

Growth of farm mechanization has provided the workforce resources needed to promote development of economic diversification. As a result of the steady increase in the level of mechanization at the Liangjiazi Farm in Liaoning Province, a workforce surplus in agriculture and farm machinery of more than 1,000 resulted. The action they took was: 1) large-scale farmland capital construction to which 270,000 work days were devoted for the movement of 340,000 cubic meters of earth to cure waterlogging on a 22,000 mu area and to sink 35 pump wells; 2) planting of trees for the afforestation of 6,600 mu; 3) large-scale raising of livestock, expanding the number of teams specializing in the raising of hogs, and setting up poultry raising and deer raising farms; 4) large-scale farm-operated industries with the expansion and new building of repair shops, brick and tile plants, paper making plants, and two collectively operated small industrial plants; 5) large-scale specialized raising of livestock with 128 households specializing in the raising of hogs, chickens, rabbits, sheep and goats. This promoted development of farming, forestry, livestock raising, and sideline occupations, and for 4 years grain production increased annually, and operations brought profits year after year.

The forum maintained that during the present period of national economic readjustment the program for farm mechanization should be as follows: Effective farming of existing cultivated land, and effective use, management, repair, and improvement of existing farm machinery and equipment to make the most of machine benefits for gradual realization of the "mechanization" of key areas and selective "mechanization." The basic goals are timeliness, superior quality, high efficiency, low cost, and safe production to promote increased output and increased earnings. In order to take further advantage of mechanization, work in the following realms must be taken in hand:

1. Summarization of Experiences to Improve Understanding and To Strengthen Leadership of Maintenance Work and To Build a Farm Machinery Corps

First it is necessary to strengthen political ideology leadership, simultaneously perfecting maintenance and management organizations. All levels of state farm and land reclamation units and farms should have one professionally well versed leader responsible for maintenance work.

Today 250,000 farm machine staff and workers are in the frontlines of state farms and land reclamation. In order to further consolidate and improve the quality of this corps, the following must be done: 1) attention to bringing into play the role of farm machine technicians so that they will have genuine functions, rights, and responsibilities. 2) Maintenance personnel should be maintained relatively stable in their jobs and should not be frequently transferred. In the practice of economic responsibility systems, levels of distribution of rewards to maintenance workers should be higher than that of farm workers. 3) Effective training of all personnel to develop a knowledge reserve. Expenses needed for training should be met in accordance with the stipulations of the 1981 Finance Ministry document, Caiqizi No 212.

2. Full Implementation of Maintenance Work Regulations for Steady Improvement in Management Levels

1) Improvement in quality of field operations with strict implementation of field operation operating rules and regulations, farm machines and farming techniques being closely combined. 2) Farm machine management to be the province of machine crews and maintenance teams with reliance on the masses to exercise care. 3) Setting up of models and commending the advanced, with the launching of a movement for comparison, assessment, and inspection. 4) A combination of spiritual encouragement and material awards, linking the sharing of profits and maintenance personnel income to stimulate and arouse the initiative of the broad masses of staff and workers.

3. Steady Reform and Perfection of Farm Machine Economic Responsibility Systems To Increase Farm Mechanization Economic Effectiveness

State farm machine management and promotion should be based on accounting for individual machines in an economic responsibility system in which "guarantees, fixeds, and rewards" are the main ingredients to play a very great role in giving impetus to improvement of quality of operations and economic benefits from mechanization in a preliminary surmounting of egalitarian tendencies toward "eating out of a large common pot." However, because of a shortage of time, it is necessary to further perfect and give attention to the good handling of the following several points: 1) farm machine organization and form of operations have to be subordinate to the needs of mechanized large-scale production and required concentrations with centralized management, centralized allocation, centralized repair, centralized supply of materials, and centralized accounting making the most of the role of machines. 2) Following institution of production responsibility systems, some farms adopted "contracting of small team operations," and "fixing of output quotas based on groups," each plot of cultivated land divided among several operating teams, the crops varying, production techniques varying, and farming times varying, and conflicts arising in the use of machines.

All levels of leadership should proceed from the overall situation and think about matters in an across-the-board way for satisfactory solution. The Dongxin Farm in Jiangsu and the Liangjiazi Farm in Liaoning adopted uniform crop patterns and unified production techniques, with unified machine operations, and unified allocation of machines and personnel. This was a good experience that can be promoted for use and studied.

4. Improvement of Farm Machine Repair Work To Improve the Good Condition Rate of Equipment

State farm machinery repair expenses annually amount to more than 100 million yuan. An effective job of repairs requires strengthening of the following work: 1) farm machine manufacturing and repair plants should follow a program in which repairs are first, and adhere to service to the grassroots and to agricultural production. While maintaining suitably centralized repairs, they should gradually institute specialized repairing. 2) Revival of the withholding of funds for major overhauls with centralized management by fiscal and maintenance departments, the special funds being used solely for the intended purpose. 3) Adherence to a planned preventive repair system with the formulation of equitable overhaul intervals and technical standards. The intervals for overhauls should be sent according to plans; any advances or delays in the time of overhauls would have to be done on the basis of a technical appraisal and be approved by maintenance departments in charge; otherwise they would bear responsibility for shortening the life of the machines. 4) Comprehensive quality controls in production with work being completed on time, and "three guarantees" instituted. Administratively, fixed quota management and economic accounting should be strengthened.

5. Tapping of Potential, Innovation, and Improvement of Existing Farm Machines and Equipment

1) Replacements should be made according to plan. Economic results derived from replacement should be the subject of all-around study with the formulation of an equitable policy for replacement. 2) The focus should be on technical improvements in existing farm implements to increase equipment performance. 3) Use of new farm machines, promotion of new techniques, and improvement of economic benefits.

Sources of Funds for Farm Machine Replacement and Technical Improvements, and Principles of Use.

1) Funds from basic depreciation should assure replacement of equipment, and they should not be diverted to any other use. 2) Right now the equipment depreciation rate is very low, which does not help technical development. Once the equipment utilization rate has been raised, the depreciation rate should raised and the period over which equipment can be depreciated shortened. 3) Basic depreciation funds should be kept by enterprises for the most part, and all of them used for the replacement or technical improvement of equipment. 4) For equitable use of overhaul funds, technical and economic analysis of overhaul must be done. Should overhaul not make as much economic sense as replacement, the overhaul funds should be used in replacing the equipment.

6. Effective Technical and Economic Analysis and Study of Technical Equipment Policies

Reliable production, advanced technology and economic sense should be part of a piece. Effectiveness of investment in farm machines, effectiveness of the use of farm machines, and ultimate economic effectiveness of farm mechanization are organically linked to form farm mechanization technical and economic evaluation criteria. All jurisdictions should adapt general methods to specific situations to arrive at their own farm machine system and equipment principles, and plans for equipping themselves, hurried at first and slow later on, proceeding in an orderly way step by step, and making economic sense to establish a truly intensive farming base. Leaders at all levels should give attention to original records, quotas of various kinds, measurement statistics, quality inspections, equipment maintenance and repair, and such basic work.

9432
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BEIJING

ACADEMY OF AGRICULTURAL SCIENCES INVESTIGATES CORN CROPS

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 1, 17 Jan 82 pp 1-3

[Article by Li Jingxiong [2621 4544 7160] and Pan Caixian [3382 2088 2554] of Chinese Academy of Agricultural Sciences]

[Text] From 25 August to 12 September 1981, the Chinese Academy of Agricultural Sciences organized 25 scientists and educators of the 5 provinces and 2 cities of North China to investigate the summer corn crops in Hebei, Henan, Shaanxi, Shanxi, Shandong, Tianjin, and Beijing for the purpose of understanding the progress gained in recent years in the breeding and cultivation condition of corn and clarifying the existing problems in production so as to develop the yield increase potential still further and to determine the ways and direction of future efforts.

Production and Cultivation

There has been some advancement in corn production. The 7 northern provinces and cities are one of the important corn producing regions of China. In the spring and the summer, 125 million mu of corn are cropped here. Compared with the time of the liberation, the acreage of corn has increased 80 percent. The increase in Shandong and Shanxi is 100 percent while that of Hebei, Henan, and Shaanxi is about 60 percent. With the improved condition of water and fertilizer, the extension of intercropping and crop repeating systems, and the utilization of hybrid seeds, the unit yield of corn in the north has been gradually raised. At present, the average yield per mu of corn in the aforementioned provinces and cities is 429 jin, slightly higher than the national average of 400 jin, and 2.1 times higher than the 136.6 jin national average per mu at the time of the liberation. The increase is also rather obvious when the current yield is compared with the average yield of 307 jin/mu of these provinces and cities a decade ago. Shandong Province now has 32 million mu of corn; the average unit yield is 514 jin, i.e. an increase of 22.6 jin per mu per year in the past 10 years. Hebei Province now has 35 million mu of corn; the unit yield is 376 jin, i.e. an increase of 8.5 jin per mu per year in the past 8 years. Henan now has 25.2 million mu of corn; the average unit yield is 423 jin, i.e. an increase of 14.7 jin per mu per year in the past 10 or 20 years. In Shanxi Province, the average yield of corn per mu has increased from the 170 jin of 1949 to 270 jin of 1959, mainly through some improvement in cultivation management, replacing hard kernel varieties with dent corn, etc. In the 60's, the double-cross varieties were extended to resolve the problem of lodging of such varieties as Jinhuanghou. At the same time, the planting density was increased to raise the yield to 370 jin/mu.

In the late 70's, the unit yield of the 11.46 million mu of corn of the province reached 509 jin. This was mainly the result of increased application of chemical fertilizers. In the past 10 years, the increase has been 14.3 jin per mu per year. Shaanxi Province now has 16 million mu of corn; the unit yield is 370 jin. Compared with the yield of 192 jin/mu 10 years ago, the increase is 17.8 jin per mu per year.

If the Yield of Corn is to be Increased Further, the Medium and Low Yield Areas Must be Taken Care of

According to the observations of the team, the intercropped corn or summer seeded corn generally has a yield of 600-700 jin/mu, with the highest near 1000 jin/mu. In the hilly and mountainous regions of the north where the corn is planted, the land is thin, dry, and sandy and there is a large proportion of low-lying saline and alkaline land. The conditions of temperature, water, and fertilizer of these places are also relatively poorer, the technological and economic capabilites are weaker, and the cultivation management is also very extensive; therefore, there is no way to raise the yield of corn. These are the areas which are dragging an entire province down. In Shaanxi Province, these mountainous corn acreage amounts to nearly 1/3 of total, distributed in Qinling, Bashan, and the North Shaanxi plateau, and the yield is less than 200 jin/mu. In these areas, corn is the major food grain, however. In the eastern Henan, in the region of Yudong, Cangzhou, Dezhou, etc. all the corn fields are sandy, low, saline, and alkaline, and the yield is neither high nor stable. For these reasons, raising the crop yield of the medium and low yield areas should be regarded as a strategic matter. During the entire growth and development stage of corn, the crop is regularly affected by all types of natural calamities. In recent years, the ripening time of wheat has been delayed more than 10 days and because of that soon after the summer corn is seeded, the seedlings are easily damaged by too much moisture. In the middle and late stages, the continuous drizzling weather also easily causes the green crop to be overflowed and wilt. There have been drastic changes in the weather pattern in recent years. The floodwater is frequently early to damage the corn crop of these mountainous areas very severely. These facts should all be included in the contents of breeding and cultivation research on corn.

Changes in Intercropping and Crop Repeating Systems

In areas of the two-crop system with the summer corn as the major crop, the following 2 cultivation systems are generally adopted at present: The first is a system of intercropping corn between mounds of wheat. The acreage of this system amounts to 85 percent in Hebei, 70 percent in Shandong, 62 percent in Henan, and very small percentages in Shanxi and Shaanxi,about one million mu each. Within each of these provinces, the intercropping system gradually decreases in percentage from the north to the south. The interval between the wheat harvest and the corn seeding time is gradually longer toward the north and shorter toward the south. In areas of Tangshan, Beijing, etc. the corn is seeded about 2-3 weeks before the wheat harvest. In the area of Zhengzhou, the corn has to be seeded in the narrow rows of 5-6 cun in width between rows of wheat to cause the schedule to be extremely tight. The second system is to seed corn after the wheat as a repeated crop. This system is adopted in areas where the breeds are properly coordinated and the manpower is adequate. In the western Guanzhong region of Shaanxi, the density of the wheat crop is high and the soils are hard; therefore, the intercropping system cannot be carried out. Hence , after the wheat harvest, the field is not plowed before seeding the corn quickly. Most recently, the trench seeding machine made in Baoji or the row seeding machine made in Wugong have been adopted to seed the corn and apply the fertilizer simultaneously. These machines create a favorable condition for orderly and strong seedlings of corn.

The aforementioned 2 systems of cultivating summer corn have respective advantages and disadvantages; their formation and change are influenced by the factors of the weather, the soil, the previous crop, the breed, the manpower, the tools, and the socioeconomic condition. In central Hebei, corn had been simply planted after the previous crop was harvested. In the 60's, late ripening wheat breeds were adopted to replace previous breeds and the system of intercropping high yield late ripening corn had to be adopted to ease the intense labor demand in the summer, to gain bountiful harvests of two crops a year, and to bring no adverse effects on the wheat seeding time. The yield of the intercropped corn is generally 10-15 percent higher than summer seeded corn. The comparative experiment in Shijiazhuang indicated that the normal seeding time of summer corn is only one week later than the intercropped corn but during the seedling stage, the seedlings of the formerare weak due to too much moisture and in the late stage, due to the extremely hot weather, they are severely damaged by viral diseases and the fruit tassels are smaller. When the corn is intercropped, the mounds of wheat prevent the irrigation water to be evenly distributed, the seeding work is too difficult to be of good quality, etc. Such phenomena as missing seedlings, uneven size of seedlings, etc. easily occur. In case of early seeded corn, the period of symbiotic growth of corn and wheat is relatively long; therefore, the young seedlings of corn are often weakened in the competition and their growth in the later stages is affected. At present cases of reverting from intercropping to repeated corncrops are by no means rare. The key is a proper cocordination of breeds and mechanical equipment. In Shandong, with the extension of the early ripening high yield breed of Luyuandan No 4, in many cases, the intercropped corn system has been quickly changed to the system of seeding corn after the wheat crop. In Beijing, the ratio of intercropped corn is very large. Some communes and brigades experimented with direct seeding of the breed Jingzao No 7 after the wheat harvest. The growth and development period of this corn breed was long and the mechanical capacity was insufficient so that less than 1/3 of the acreage could be thus seeded. The Doudian Brigade of Fangshan acquired all the needed machine tools by cooperating with other units before an experiment of summer seeding of corn in 4,000 mu was carried out in 1980. A great harvest of an average yield of 1,065.5 jin/mu was obtained. This brigade had experimented with Jingzao No 7 3 years previously, the yield of direct seeding was 100-180 jin/mu higher than that of the intercropped crop of the same breed.

A Great Deal Can be Accomplished by the Cultivation Technique

The common problem of areas of the dual system of corn [and another crop] is the decreasing soil fertility, the shortage of fertilizer supply, the deficiency of phosphorus and potassium, and a low plant density. In Guanzhong Prefecture, 60-80 percent of the total cultivated land contains less than 1 percent organic matter. The method of returning the stubble to the land was experimented but it could not be extended due to the fact that the problem of fuel shortage was intensified by this method. The region of Huixian and Boai of Henan also has the problem of decreasing soil organic matter content. Although the chemical fertilizer supplement is plentiful the high plant density remains a competing factor to cause the current yield level of 900 jin/mu difficult to break. The application of chemical fertilizers is traditionally heavy in the summer and light in the autumn. The intercropped corn is applied with very little fertilizer to produce the result of delaying the wheat crop for keeping it green longer, while in the late stage of the corn crop, fertility is seriously deficient. When more phosphorus fertilizer is applied for the corn crop, it can balance the nitrogen fertilizer to promote early ripening and has a great effect on the late ripening corn crop. The soils of Shaanxi have a phosphorus content of 400/1,000,000. During the jointing and heading stages, the soil nitrogen content is set at 600/1,000,000 as the fertility standard and this standard often cannot be reached for the majority of the fields. At present, corn-soybean intercropping system is being experimented in many places. This system may be significant in terms of nurturing the soil and taking care of the needs for grain and beans at the same time. Yield increase is closely related to the technique of coordinating plant density with the quantity of fertilizer application. In Hebei Province, the density was only 2,000 plants/mu in the 50's; in the 60's it was raised to 2,700 plants/mu. It has been raised to above 3,000 plants/mu in recent years, while for early ripening breeds, it has reached above 4,000 plants/mu. In the high yield county of Xinxian of Shanxi, the average density of Zhongdan No 2 is 2,143 plants/mu and the yield is not as high as that of Dunliu, a low yield county, having a density of 2,840 plants/mu. In Shaanxi, the density for corn is generally no higher than 2,000 plants/mu; in Guanzhong, it is less than 2,500 plants/mu for even the high yield areas. The densities are; therefore, considerably less than the optimal density of 4,000 plants/mu determined by the result of experiments. For this reason, a suitable adjustment of density should be one way of raising the yield level of corn in the entire province.

Breeding, Breed Certification, and the Production of Seeds

A batch of superior breeds have been selected and bred out and some new combinations have been produced. After a period of using superior breeds to replace farm breeds, China's corn breeding work has undergone the 3 stages of interbreed hybridization, double cross breeds of inbreed lines, and single cross hybridization. For the purpose of simplifying the breeding process and the seed production procedure, the period beginning in the late 60's was devoted mainly to selecting, breeding, and extending single cross breeds to raise the yield of corn still higher. At present, the proportion of hybrid corn is very large in the northern provinces and cities. It is 96 percent in Henan, 90 percent in Beijing, 88 percent in Shandong, 84 percent in Shanxi, 83 percent in Tianjin, 76 percent in Hebei, 75 percent in Shaanxi. In recent years, a batch of superior single cross breeds have appeared one after another. They really have the superiority of being broadly adaptable and obviously yield increasing. Of these, the ones in excess of or close to 10 million mu in cultivated acreage per year include Zhengdan No 2, Danyu No 6, Zhongdan No 2, and Luyuandan No 4. Those having been extended to several million mu include Yunong No740, Jingcha No 6, Yushuang No 5, Shaandan No 7, Lusan No 9, and Jingzao No 7. Those having been extended to less than 1 million mu include Jidan No 3, etc. Compared with the foreign breeds introduced to the region for experimental cultivation, these hybrid combinations are better regarding adaptability, disease resistance, production potential, and kernel quality etc. The parents of hybrids used in production in China are mostly inbred lines selected and bred out in China.

The Joint Regional Summer Corn Experiment of the North has demonstrated that new combinations having relatively better expressions include Xindan No 14, Guandan No 3, Shaandan No 9, and Yandan No 15. All obviouslyhave a promising future. Those breeds that are being tested in various areas include Hudan No 1 (the same as Yandan No 14,) Jinxia No 1 (the same as Liaoyu No 5,) Lindan No 8, Changdan No 19, and Xinhuangdan No 56. Each of these has its own superiorities and all are being emphasized. Of these, Xinhuangdan No 56 produced extremely large ears of 37 cm in length. Those who saw them exclaimed thatthey had never seen anything like it. Several white kernel breeds, Taidanbai, bred out in Taiyuan also have large ears and are suitable as spring corn. They may be experimented within high fertile fields. Moreover, Yuanwu 02 x Jin 402 hybrid has been bred out in Tianjin and 107 x Huangzaosi in Yi County; both are demonstrating excellent qualities locally. They are worthy of attention.

Carrying out Breeding Work to Reduce the Cost of Production and Improve Purity of Seeds

Before the productivity of the parents of inbred lines can be raised, the cropping of single cross hybrids in production is not a practice in keeping with economical principles. The genetic foundation of a single cross is relatively narrow causing it to be unable to adapt to new diseases and pests or to withstand the attack of natural calamities. For this reason, many breeding units have experimented with many triple crosses and double crosses to supplement or replace single cross hybrids. Some combinations, such as Lusan No 9 and Yushuang No 5 have already been used in production. Others, such as Cangsan No 1 (Luyuandan No 4 x Huangzaosi,) Luyuandan No 4 x Guanhuang, Huangzaosi x Sansui/Guanhuang, 206 x Ba912 x Bai MO 17, MO 17 x 334 - 1/Zong 737 (all of which are combinations yet to be named by the breeder unit) still require further experimentation and certification. The utilization of male sterile corn can save the detasseling labor as well as improve the quality of prepared seeds. After the introduction of new C type cytoplasmic male sterile materials in 1974, the work of conversion was launched in the various areas. To date, it has been successful with regard to Yunong 704, Zhengdan No 2, Zhongdan No 2, and Jinxia No 1 and the results have begun to be extended. The male parent in the breeding line of these combinations, the 525 Huobai, the 330, and the Yuanwu 02, happens to be the natural line restoring the C type.

Determining the Breeding Target

It was in 1966 when the corn crop was attacked by the large spot disease for the first time, the importance of breeding disease resistance became commonly acknowledged, and such disease susceptible breeds as WF 9, W 24, 38-11, etc. began to be eliminated. Those that were selected in China, such as 525, Tangsipingtou, and 330, demonstrated their superiority then. In order to overcome the regular threat of the small spot disease to summer corn, Huobai, Huangzaosi, and Yuanwu 02 were created. They were suitable as early ripening and highly compatible parents. In North China, head smut had traditionally been a severe disease of spring corn and all breeds extended before 1975 were susceptible. After the MO 17 inbreed line was used to form combinations, the hybrids were not only capable of resisting head smut, they were able to resist large and small spot diseases as well. Various types of viral diseases and green wilt extensively occurred, however,to present new and even heavier jobs for the crop breeders. It appears that the target of simultaneous resistance to 4-5 different diseases is difficult to accomplish for the time being. In corn breeding, the target should perhaps be, as much as possible, resolving the problem of 2-3 major local diseases or pests. When white kernel corn is being selected and bred, the goal should be to meet the desire of the farmers of the wheat-producing regions. This is a special characteristic of China. At present, white and yellow corn breeds are being combined in hybridization although the market price of the mixed colored corn makes it unfavorable for [State] purchase and its nutritional value is also inferior to all yellow corn. In the majority of the provinces and cities, the farmers strongly demand early ripening, high yielding white kernel corn. Early ripening, high yielding, stable yielding, adaptability, and adversity resistance remain common and important goals of corn breeding. As it is mentioned in the previous section of the paper, early maturity is the reason for Luyuandan No 4 to be quickly extended and to cause the intercropping system to reverse to the repeat crop system. Under the condition of the intercropping system in Henan, however, there remain 20 to 40 days after the corn harvest before seeding the wheat to allow the corn crop to grow longer; therefore, it is not suitable in Henan to overemphasize early maturity. The way to do it is to coordinate early, medium, and late breeds.

Aside from the common targets of crop breeding discussed above, a few units in the north are also proceeding to breed for quality (emphasizing high lysine content) and stalk shape (including short stalk, straightly standing leaves, ideal appearance, double-tassel, etc.) and some preliminary successes have been obtained. These tasks are still in the research stage, however.

Emphasizing the Sources of Breeding Materials and Opening up New Ways of Crop Breeding

Due to the fact that materials for crop breeding are limited, there are only a few mainstay lines to be selected out and when new combinations are tried, the phenonmenon of repetition seems to be difficult to avoid. As a result, most superior combinations have a common parental inbreed line. Three hybrids formed by three main lines are listed in the following table to explain that there is the danger of a hidden genetic weakness in the current and future corn breeds of the north.

Huobai	Mo 17	Huangzaosi
Tangsipingtou x Huobai (Zhengdan No 2)	Mo 17 x 330 (Zhongdan No 2)	Huangzaosi x Luyi-3 (Jingzao No 7)
2578 x Huobai (Jidan No 3)	Gonghuo 412 x Mo 17 (Xindan No 14)	Huangzaosi x Santuan (Yandan No 15)
Huobai x Bai525 (Bodan No 1)	Mo 17 x Fengke-1 (Yudan No 5)	Yuanwu-02 x Huangzaosi (Jinxia No 1 = Liaoyu No 5)
206 x Huobai (Shaandan No 7)	Huangzaosi x Mo 17 (Hudan No 1 = Yandan No 14)	Huangzaosi x Guanhuang (Guandan-3)

If this condition is to be changed, emphasis must be given to the origin of the breeding materials to create artificially complex breeds to reconstruct the colony before new superior inbred lines can be selected out. From the hundreds and hundreds of farm breeds of Shaanxi, more than 20 head smut resisting materials have been selected out and some of these have a high compatibility. Moreover, a new line of Zong 737 has been selected out of another compound breed and it also has a very high compatibility. In Xinxian of Shanxi, the old lines of Jin-01 through 09 have been used to produce a compound breed and from which an inbred line Xin-305 has been selected out. It has the ability to resist large spot disease and head smut. The breed Santuan selected in Yantai is also a product of mixed pollination of many lines. Since 1978, 10 compound breeds have been produced through cooperation and the work of selection, rotated backcrossing, etc. is being carried out. Judging from the preliminary reconstructed colony, disease resistance is obviously higher and the yield is somewhat higher also. All these provinces have performed a great deal of work in terms of selecting breeding materials and ways of breeding. Some have adopted the method of extracting a second cycle line from hybrid breeds. In Shaanxi, it is believed that the backcrossing method is easier than breeding out a new line for the purpose of such a simple characteristic in Huobai inbred line as large spot disease susceptibility.

The Problems of Regional Experimentation and Seed Quality

In the past 3 years, experiments in the summer corn regions of the north have been uninterrupted. They have proceeded in the 2 groups of early and medium ripening breeds. There have been serious and detailed studies on field management and identification and not a few superior breeds have been selected and judged for extension. The current problem in regional experimentation is the relatively confused leadership organization. There is no clear delineation of job responsibility and the phenomenon of multiple and overlapping authority exists. In some provinces and cities, the scientific research unit cooperates with the seed company with the former taking on some jobs and the latter providing support in matters of distribution points and expenditure. The work of certification and summarization was performed jointly by both parties. In some provinces, there are not only national and provincial regional experiments, but also similar experiments arranged by different systems and different departments. There are even many sets of experiments with similar contents arranged in the same location to bring unfavorable effects on all the work.

Production demonstrations of many hybrids have been carried out in Jinxian, Changan, Wugong, Yixian, and Fangshan. They grew orderly and well to prove that the work of seed preparation has been satisfactorily performed. The Mo 17 seeds produced by the Yangqu Superior Seed Propagation Farm and the seeds of white kernel breeds of Qianan of Tangshan are high in quality and purity. The work of perparing corn seeds in Yantai Prefecture has earned a very good reputation. In recent years, the method of covering with bags to purify and propagating the seeds by steps has been maintained to keep the purity and quality of the inbred lines at a relatively high level. In other individual places, an imbalanced condtion still exists with some breeds. Due to mixing of seeds, the green wilt disease has appeared in some Zhengdan No 2 seeds, in Luoyang the Yunong-704 is infected with head smut, and the small spot disease has been discovered in Bodan No 1. In Xuchang of Henan, there was an experiment with seeds of Zhengdan No 2 of different degrees of purity to reveal a relative difference of 145 jin/mu, amounting to 30 percent. In Changzhi, a comparative test of 6 breeds demonstrated that seeds of inferior degree of purity may result in a yield reduction as much as 21.4 percent. In some places, due to the fact that the work is not up to par, seeds that are offsprings of hybrids are continuously being used for planting. In these cases, there is no heterosis utilization to speak of.

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BRIEFS

TREATING WASTEWATER--China has extensive deposits of ferric sulfate, coal, and multimetal sulfide, and a large number of these are being mined. The ores contain a certain quantity of sulfides, which, after oxidation, often turn into acidic pit water which corrodes pipes and equipment and endangers the health of the workers. When this wastewater is discharged, it pollutes the environment and the source of water supply to produce serious effects on agriculture, fish culture, and industries. The chemical process of the formation of the acidic pit water and its characteristics are described in this article. In most cases, the mines of China discharge this type of wastewater without treatment to which creates serious environmental pollution and great economic losses. In Yuntaishan of Jiangsu Province, for example, the mine discharges 3,000 tons a month to pollute 1,600 mu of cropland. In an average year, the loss compensation amounts to 50,000-60,000 yuan per year, to reach a maximum of 86,000 yuan per year. Some data on the metal contents of contaminated soil are included in the article. Major techniques of treating the wastewater to render it harmless and the practices of some mines, such as Chuanbu Coal Mine of Jiangsu, are also noted. [Article by XIAO Youquan [5135 2589 5425]: "On Pollution and Protection of Acidic Pit Water"] [Beijing SHUIWEN DIZHI GONGCHENG DIZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 3, 15 May 82 pp 7-9] 6168

CSO: 4011/141

NEW METHOD OF HYBRID RICE SEED PRODUCTION DETAILED

Guangzhou GUANGDONG NONGMIN BAO in Chinese 20 Jun 82 p 2

[Article by Liu Wenbing [0491 2428 3521]: "A New Hybrid Rice Seed Production Method"]

[Text] There are two current ways of producing hybrid rice seeds. One is the two stage male parent seed production method whereby the male parent is sown at two different times and transplanted at two different times so as to insure that the male and female parents' (i.e. the restorer line and the sterile line) flowering periods coincide. The other way is the male transplanting seed production method whereby the male parent and the female parent are transplanted into different field plots, the male parent being sown at different times and transplanted in different batches, the male parent being transplanted into female parent fields before the female parent flowers so that the flowering periods will coincide for pollination and hybridizing. The two stage male parent seed production method is handier and requires less work than the male parent transplant method of seed production. However, as a result of the influence of climatic, soil, and man-made factors, frequently the two flowering periods do not coincide, with the result that outputs from seed production cannot be assured. By using the male transplant seed production method, coincidence of flowering seasons can be assured; however, it is necessary to set up an additional "field to provide male parents," and a great amount of work is entailed in transplanting the male parents. Furthermore, if one is not careful, roots may frequently be damaged or buds and panicles killed, the amount of pollen thereby being diminished. Consequently, as a practical matter is is difficult to promote this method for large area use.

In order to assure coincidence of the flowering seasons to win consistently high yields from seed production, the Guanqian Commune Hybrid Rice Seed Production Team in Longqi County, Fujian Province designed a three stage male parent seed production method in 1979, resulting in average yields of 196 jin per mu of intermediate hybrid rice production from the commune's more than 240 mu of fields. From the commune's more than 200 mu of continuous tract seed production fields, yields averaged more than 200 jin per mu.

The specific method they used was as follows: The male parent was sown at three different times and transplanted in two batches. In the first batch, plants from the first sowing and the second sowing were transplanted. Male plants from the second sowing were transplanted into a single row, and male parents from the first sowing were transplanted in a row alongside the male parents from the second sowing. Furthermore, for every three plant spaces, one plant was transplanted and two spaces were left blank. In the second batch, male parents from the third sowing were trnasplanted in the two blank spaces left in the row in which male parents from the first sowing had been transplanted. The ratio of male parent transplants from the three sowings was 1:3:2. The second sowing of male parents was done 5 days after the first sowing, i.e. male parents from the first sowing had a seedling age of 30 days; male parents from the second sowing had a seedling age of 26 days; and male parents from the third sowing had a seedling age of 25 days. Six days following the second sowing of male parents, the third sowing of male parents began. The time of sowing of the female parent was decided largely on the basis of leaf blade differences in the second sowing of the male parent.

The three stage male parent seed production method holds the following several advantages:

1. Assures coincidence of flowering seasons. In the three stage male parent seed production method, the first sowing of the male parent is 4 to 5 days earlier than in the two stage male parent seed production method (as determined by visual inspection of combinations). Moreover, in the three stage sowing of male parent, the second sowing of the male parent is 2 days later than in the two stage male parent seed production method. This attenuates the flowering time of the male parent and assures a coincidence of flowering.

2. Attenuation of the male parent full flowering period. Many years observation shows the female parent to have a 12-14 day flowering period, while in the two stage male parent seed production method, the flowering period is only about 10 days. Because the second transplanting of male parent seedlings comes 8 days after the first one in the two stage male parent seed production method, the period of full flowering during each period is only 5-6 days, causing a period of 1-2 days of no full flowering between the first and second period with adverse consequences for pollinization. In the three stage male parent seed production method, the third transplanting is done 6 days after the second transplanting providing for an overlap in full flowering between the first male parent transplant and beginning of flowering of the second male parent transplant, and an overlap between the time of no flowering as yet for the second transplants and the beginning of flowering of the third transplants to assure no interruption in the period of full flowering of the male parent in a 13-14 day period of full flowering. This is virtually the same as the period of full flowering for the female parent for a general pollination rate of 45-48 percent, and as high as 58 percent.

This method has overcome the expenditure of manpower required by the male parent transplant seed production method and the need to set up "field to provide male parents." It has also overcome the shortcoming of an insufficient supply of pollen.

Therefore, the three stage seed production system is in some ways superior to both the two stage seed production method and the male transplant seed production method.

As schematic diagram of a three stage male parent seed production field is as follows:

(2) (1) x x x x x x x (2) (1)

(2) (3) x x x x x x x (2) (3)

(2) (3) x x x x x x x (2) (3)

(2) (1) x x x x x x x (2) (1)

(2) (3) x x x x x x x (2) (3)

(2) (3) x x x x x x x (2) (3)

(1) is the first male parent sowing; (2) is the second male parent sowing; (3) is the third male parent sowing; and x is the female parent.

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INCREASES IN MARKETING AQUATIC PRODUCTS NOTED

Shijiazhuang HEBEI RIBAO in Chinese 26 May 82 p 1

[Article: "Tremendous Increases in Output, Procurement, and Marketing of Cangzhou Prefecture Fishing Industry. State Purchase Quotas Policy Instituted; Satisfaction of Quotas Linked to Supply of Goods"]

[Text] Cangzhou Prefecture aquatic products units have assiduously carried out a program of taking the planned economy as the key and market regulation as supplementary, have instituted state procurement quota and award sales policies for aquatic productions, and have strengthened market management to win excellent economic benefits. Satistics as of the end of April show increases of 27.6, 71.3, and 60.5 percent respectively over the same period last year in output, procurement, and marketing of aquatic products.

During the past several years, development of Cangzhou Prefecture's fishing industry has lagged. Quantities procured by the state have been small and quality poor, and market supplies short, largely as a result of failure to carry out assigned procurement quota policies, failure to honor award sale policies, and lack of improvements in the management system. This year all levels of aquatic product units and production units in Cangzhou Prefecture have proceeded from desire to improve economic benefits to implementation of fishing village economic policies, taking four actions as follows. First was assignment of assigned procurement quotas and the signing of purchase and marketing agreements. Except for prawns, all of which are to be procured by the state, for all other catches proportional assigned procurement quotas were set. Normally verification was done on proportions of sales for each tide. In the fishing season and for the year as a whole, verification was done on the basis of assigned procurement quota base figures, with amounts in excess of quotas being settled for at a negotiated price. Second was institution of award sales policies linking fishing and materials. For lumber, diesel fuel and such materials required by the fishing industry, a system whereby the greater the quantity of aquatic products surrendered the greater the supply of such materials was instituted, the less the quantity surrendered the less supplied, and nothing surrendered nothing supplied. Third was strengthening of market management for the opening of marketing channels. Both assigned procurement and negotiated procurement were handled by aquatic products supply companies, no other unit having any right to intervene, or being allowed to go directly to fishing communes to do private pre-emptive buying. Production units practicing assigned procurement quotas could not sell in markets, nor could collective products be divided among commune members and sold. Control over small pedlars was strengthened in determined curtailment of unauthorized dealings, and profiteers and speculators were resolutely attacked. All levels of aquatic product supply and marketing units were required to determinedly carry out state delivery plans, with no shipments of inferior products while retaining the good ones or selling the good ones while delivering the poor ones being permitted. Fourth was an intensification of ideological indoctrination of fishermen in the "three concurrent concerns" to overcome and prevent a mentality of selfish departmentalism and individualism for active fulfillment of assigned procurement quotas.

Implementation of policies promoted output, procurement, and marketing. As of end April, prefecture production of aquatic products of all kinds totaled more than 17.95 million jin, a 27.6 percent increase over the same period last year. Procurement totaled more than 6.45 million jin, a 71.3 percent increase over the same period last year. Marketing within the province and in the two cities of Beijing and Tianjin amounted to more than 6.05 million jin, a 60.5 percent increase over the same period last year for a fine showing for the spring fishing season as a whole.

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MEASURES TO CONTROL SERIOUS COTTON APHID OUTBREAKS OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 28 May 82 p 2

[Article: "Tremendous Outbreaks of Cotton Aphids; Need For Strenuous Efforts in Elimination and Control. Provincial Agriculture Bureau Comrades In Charge Issue Statement to Newspaper Reporters on Current Elimination and Control of Cotton Aphids"]

[Text] On 26 May, Provincial Agriculture Bureau comrades in charge pointed out the following in a statement issued on the problem of elimination and control of cotton aphids [Aphis gossypii]

By now most cotton seedlings in the province have emerged from the ground and a general outbreak of cotton aphids has occurred. Monitoring reports for the period 10 to 19 May from plant protection stations everywhere report a general 20 to 30 percent and a maximum 100 percent plant aphid infection rate. One hundred plants showed aphids numbering more than 100, and many had between 4,000 and 5,000. Curling of leaves has begin to appear on large numbers of plants. A survey done on 19 May at the Zhengding Stock Variety Farm showed a 50 percent rate of leaf curling. Generally speaking, when the plant aphid rate reaches 30 to 40 percent, when aphids number 1,000 per 100 plants, when the number of plants having curled leaves stands at 20 to 30 percent, and when the proportion of ladybugs is less than 1:150, prevention and control should be done at once, otherwise a loss in yields may result.

Aphid pest growth and development in cotton seedlings extremely damages cotton output. Studies show that when aphid pests occur in cotton seedlings during the period between the seed leaf and the first true leaf stage, the squaring stage will be delayed by from 5 to 10 days. When aphids strike cotton seedlings between the seed leaf and third true leaf stage, squaring will be delayed for 11 to 15 days. Surveys done at Shijiazhuang, Handan, Jingtai, and Baoding prefectures show that unless cotton seedling aphids and hot weather aphids are controlled, cotton output will drop by 60 percent or no crop at all will be harvested. If not properly controlled, a 10 to 30 percent drop in output will result.

Control of cotton aphids during the seedling stage requires comprehensive control measures. From the time that thinning of seedlings begins in cotton fields, control of aphids should be done at the same time. When thinning seedlings, attention should go to thinning of cotton seedlings bearing aphids, and uprooted aphid-infested cotton seedlings should be taken out of the fields and buried or composted.

Chemical control should emphasize stem applications of omethoate and methamidophos. Use of this method is highly effective, economical, convenient, and is not limited by lack of pesticide equipment. Peasant households can use it. Chemical control must be done in the control period, neither too early nor too late. In places where the proportion of ladybugs is greater than 1:150, attention should go to protecting and using natural enemies to effect control.

Control of aphids requires use of the plant protection organization. Particularly necessary is bringing into play the superiority of production brigades and production teams in providing centralized control. No matter the forms of production responsibility systems practiced, elimination of insects requires centralized survey of the insect situation, centralized purchases of pesticides, centralized management of pesticides, centralized preparation of insecticides, and centralized organization of control in order to reduce the incidence of accidental poisoning, improve control results, and solve problems of myriad households not having sufficient pest control equipment and inability to control the insects. Leaders at all levels and plant protection units must organize their mainstay cadre forces to go into communes and brigades to provide technical guidance and technical education. They must do a really good job of publicizing safe use of pesticides to prevent accidental poisonings.

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GUIDELINES PROVIDED FOR DISTRIBUTION OF SUMMER EARNINGS

Shijiazhuang HEBEI RIBAO in Chinese 22 May 82 p 1

[Article by Commentator: "Concurrent Concern For the Interests of the Three In Doing an Effective Job of Summer Earnings Distributions"]

[Text] Soon the work of distributing summer earnings will begin. In line with the principle of concurrent concern for the interests of the state, the collective, and individual commune members, effective distribution of summer earnings possesses major significance for implementation of party policies, consolidation and perfection of production responsibility systems, for arousal of enthusiasm for labor of commune members, and for further winning of a bumper harvest in agriculture for the year as a whole. All jurisdictions should promptly prepare to do a good job of distributing summer earnings.

This year distribution of summer earnings is being done in a situation in which universally instituted rural systems of responsibility linking output to calculation of remuneration have entered a stage of consolidation and perfection. As compared with previous years, there are numerous new problems requiring study and solution. All levels of leadership should promptly set about investigating and studying to understand base figures. Specialized rural work teams in each county should also make distribution of summer earnings the focus of their activities, focusing on helping grassroots level cadres solve a group of real problems so as to assure smooth progress in summer earnings distribution work.

This year's summer earnings distribution work must be conducted with adherence to the principle of maintaining and consolidating development of the collective economy. In some places grassroots cadres onesidedly suppose that now that responsibilities have been assigned to households there is no longer any need for accumulations. In production teams that practice the contracting of work tasks to individual households, in particular, insufficient withholdings have been made and in some production teams there have been no collective withholdings. It has to be realized that no matter the form of production responsibility system practiced, all economic activities are conducted with adherence to the path of socialism and public ownership of the major means of production such as land. The collective economy can gradually become strong only as responsibility systems are steadily improved and production steadily develops; the collective economy positively cannot be weakened.

The reasons are very clear. Only through steady development and strengthening of the collective economy can commune member contracting activities be securely backed. Therefore, effective collective withholdings and development of a robust collective economy are not only requirements for strengthening the socialist system, but also fit in with expansion of the peasants' long range interests. In the process of this year's distribution of summer earnings, it is necessary first of all, to resolve problems remaining from last year, raising the matter of required withholdings. In cases where individual commune members refuse to hand over withholdings, they should be patiently persuaded and educated. When persuasion and education do not bring them around, the collective should take back the land contracted to them. It is necessary, in addition, to institute withholdings one by one for this year. Generally withholdings will include the following: state purchase quotas, assigned procurement quotas, and agricutlural taxes for grain, oil-bearing crops and other agricultural products sold to the state; public accumulation funds, public welfare funds, and management expenses (including remuneration to cadres); subsidies to various categories of people; depreciation of fixed property; farm implement overhauls; some production expenses advanced by production teams, seeds, livestock feeds, supplemental grain for commune member hog raising, newly sunk production team pump wells, investments in afforestation and a certain amount of obligatory labor and capital construction labor. Today, many places use earnings from sideline occupations to offset withholdings where sole responsibility for work tasks has been assumed. Accounts must be squared and everything about them made public; otherwise, not only will expansion of industrial sideline industry reproduction be at a disadvantage, but it will be difficult to do cost accounting for agriculture. When withholdings are made from production teams, all items for which withholdings have been made, as well as numerical amounts, must be made public to the masses and be subjected to mass scrutiny. Simultaneous with an effective job of collective withholdings, effective arrangements for commune member distributions must also be made, and an effective job done of looking after the dependents of martyrs, servicemen, and hardship households. A portion of commune and brigade industrial sideline occupation earnings should be made a part of commune member distributions. In production teams practicing assignment of full responsibility to households, how these funds will be distributed to commune members must be arrived at through discussion among commune members to find suitable ways. In making distributions, attention must be given to equitable calculation of compensation for personnel in each sector.

Conscientious honoring of contracts is a new feature of this year's summer earnings distributions. Last winter and this spring in a substantial portion of communes and brigades in Hebei Province as a result of the signing of contract agreements between collectives and commune members, state purchase quotas, assigned procurement, collective withholdings, commune member bonuses and penalty payments, and calculation of remuneration became a part of agreements. In making distribution of summer earnings, in all cases in which agreements specify that one thing or another must be honored, it must be conscientiously honored as stipulated. Commune members are to be helped with threshing and with verification of outputs to provide a basis on which agreements may be honored. Should severe natural disasters occur and it becomes difficult to make withholdings in accordance with agreement stipulations, following democratic discussion and agreement among commune members withholdings may be deferred until year's end or reduced. In cases in which commune member distributions cannot be readily honored in accordance with previous agreements, contract norms may be revised through democratic discussions among cadres and commune members before distributions are made. Conscientious honoring of agreements is important in maintenance of the solemnity of agreements and in winning the confidence of the peasants, and no one may scrap agreements on any pretext whatsoever.

Finance and accounting personnel capabilities bear directly on summer earnings distribution work. Therefore, all jurisdications should take the opportunity that the time remaining before the wheat harvest affords to qualify finance and accounting personnel and to set up statistical accounting forms. They should also effectively train finance and accounting personnel. In the course of training, they should be guided to the study and analysis of local realities so they will know what to do about problems that may come up in future. Professionally, they should be helped to understand difficulties so they will be able to meet new circumstances and smoothly carry out summer earnings distribution work. Finance and accounting personnel should also be helped to combine summer earnings distributions with the straightening out of fiscal matters. During the past 2 years, a considerable number of the province's communes and brigades have carried out fiscal reorganization, winning definite results. However, this has not been done evenly. Some communes and brigades did not do this, so their fiscal affairs are still in a chaotic state and losses are severe. This year these places should begin with summer earnings distributions to put their financial houses in order for the first half of the year, and following the wheat harvest, they should straighten out the earlier period. As a result of straightening out finances, the collective economy will be able to proceed along a healthy course.

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LAMB BREEDING SURVIVAL RATE BREAKS RECORD

Shijiazhuang HEBEI RIBAO in Chinese 28 May 82 p 2

[Article: State-owned Yudaokou Livestock Farm's Lamb Breeding Survival Rate Again Creates New Records This Year. This Year's Inventory Increase Reaches 123.74 Percent, 3.74 Percent Higher Than Last Year"]

[Text] Several days ago a comrade in charge at the Provincial State Farm and Land Reclamation Bureau told the reporter that the Province's Yudaokou Livestock Farm, which last year had the highest lamb breeding survival rate in the country, this year rose another notch again being the highest achiever in the country. Last year the farm mated 15,000 sheep, which produced 19,151 lambs this year with a survival rate of 18,562 lambs, an inventory increase of 123.74 percent or 3.74 percent more than last year. A look at the lamb production situation shows that adult sheep have fattened well and have sufficient milk, so lambs are healthy. This year the farm also had a new breakthrough in its lamb breeding survival rate. At the No 18 Production Team all of the 163 ewes tended by old livestock man Wang Yuchen [3076 3768 5256] were successfully mated, and the survival rate for lambs that were born was 255, the inventory increase resulting from the breeding amounting to 156.44 percent, exceeding by 6.44 percent the record national high for the same trade of a 150 percent inventory increase in the breeding of lambs in a single herd formerly held by labor model, Song Guofu [1345 1948 1381] making him the second national recorder holder at the farm. Now the Yudaokou Livestock Farm is bolstering management of feeding of ewes and of lambs following birth. As lambs increase in daily age, they gradually lengthen pasturing time, and increase time alloted to the collection of grass and the quantity hauled in order to increase milk to promote normal development of lambs.

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ALL ENCOMPASSING AGRICULTURAL, COMMERCIAL CONTRACT SYSTEM PROMOTED

Shijiazhuang HEBEI RIBAO in Chinese 24 Jun 82 p 1

[Article: "Shijiazhuang Prefecture Gives All Around Promotion to Agricultural and Commercial Contract System. Commune Members' Minds At Ease; Cadre's Confident, and State Plan Guaranteed"]

[Text] The 17 counties of Shijiazhuang Prefecture have universally promoted an agricultural and commercial contract system. The assortment of goods for which agreements have been signed include grain, fats and oils, cotton, tobacco, live hogs, fresh eggs, pears, apples, red dates, walnuts, and vegetables, diesel fuel, chemical fertilizers, and pesticides. Currently more than 89,000 individual contracts having a value totaling 449 million yuan have been signed throughout the prefecture.

Shijiazhuang Prefecture has used the institution of an agricultural and commercial contract system as a major technique in applying economics to management of the economy. All state owned commercial units (including those for business, supply and marketing, grain, and foreign trade) signed agreements with rural production teams, in accordance with state plan, for the purchase of agricultural products and the supply of materials to support agriculture. Production teams then signed, in turn, contract agreements with specialized teams (or units), or with commune member households, providing for a responsibility system linking output to calculation of remuneration. In this way not only were state plans pertaining to agricultural production put in place in the form of agreements, agricultural production thereby being put on the proper path of the state plan, but state procurement and marketing plans were dovetailed with agricultural production plans to achieve level by level control and clearly defined responsibilities, thereby assuring smooth fulfillment of state procurement and marketing plans and agricultural production plans. People said that with the signing of agricultural and commercial agreements, it is as though commune members had taken a tranquillizer, the cadres had gained confidence, and state plan was assured, all three parties being pleased. The grain and edible oil agreements signed by the prefecture this year account 94 percent of the prefecture's state procurement quotas. Those for cotton account for 103.5 percent of procurement plan; those for tobacco account for 119 percent of procurement plan; those for pears amount to 154 percent of procurement plan; and those for red dates account for 109 percent of procurement plan.

By way of strengthening management of economic agreements and assure their implementation, each county in the prefecture has set up small leadership teams for promotion of the contract system at the county and commune levels. The prefecture, counties, and communes, as well as all pertinent vocational units in charge, have designated and placed in charge leadership cadres and management personnel responsible for contracts work. Each unit signing contracts has established personnel solely responsible for signing of contracts and managing them. Throughout the prefecture a preliminary situation has come into being whereby "leaders are directly in charge of the division of labor, units in charge are in control of specifics; grassroots levels provide designated personnel to take charge; and authenticating units are in overall charge." Recently Shijiazhuang Prefecture's government administrative offices have required each jurisdiction to use various means to organize cadres and masses to thoroughly study "economic contract methods," to enhance their conception of the legal system, and to establish a fine style of "attach importance to contracts and safeguard their trustworthiness," and "fairness and honesty with no cheating of anyone." The prefecture also required that all levels of government and vocational units in charge genuinely strengthen leadership, make periodic inspections, give attention to representative examples, summarize experience, promptly discover and solve existing problems, intensify training of contract management cadres, and steadily improve management levels.

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HENAN

PAYING ATTENTION TO GRAIN PRODUCTION COMMENTED ON

Beijing RENMIN RIBAO in Chinese 13 Apr 82 p 2

[Article by Xiao Bingjun [5135 4426 6874] and Sun Xitong [1327 1585 0681]: "Emphasize Production of Millet"]

[Text] As early as the 1950's, there had been records of per mu yield of 1,000 jin of millet in Wen County and Tangying County in Henan Province. Some counties in Shandong, Hebei and Shanxi also had millet fields of unit yields of 500 to 800 jin. Thus it can be seen that as long as the conditions of the climate, soil and water and fertilization are appropriate, and as long as there is scientific management, the yield of millet can be increased. We cannot say that millet is a low yielding crop.

The nutritional content of millet is higher than other food grains and the nutrients have special functions in human health. According to analysis by research units in the health sciences, each jin of millet contains 48.5 grams of protein, 8.5 grams of fat, and a higher content of vitamin B, and the content of vitamin A is especially rich. In our nation's northern farm villages, millet is frequently used as a supplement for pregnant women and babies. People plant millet to harvest the seeds and also obtain more straw. The straw of millet is rich in nutrients. According to analysis: The straw contains 0.7 to 1.0 percent of digestable protein and a total of 47 to 51.1 percent of digestable nutrients. The amount of digestable protein in millet straw is higher than both wheat stalks and rice straws. Millet straw can be easily stored and is an indispensable feed for mules in the northern parts of our nation.

Millet husk is a good feed for hogs and chickens. As long as it is fully utilized, it can conserve a lot of fine feed.

Millet is strongly resistant to aridity. Such a situation frequently occurs. Under the same threat of drought, corn often dies from the drought while millet could still grow.

Millet can be easily stored and carried. It is the best food to prepare for war and disasters. Millet grains have a strong outer shell, and it can be called "the food grain that wears a helmet." Ancient books note that "of all the nine grains in storage, millet is the main one." Throughout the dynasties in our nation, most of the granaries (for disaster relief) stored millet. During the War Against Japan and the war of liberation, millet was the main type of food grain for consumption by our armed forces in the northern regions.

Millet is a superior crop. In readjusting the structure of food grains, we should restore the role and the reputation of millet production. We should provide more area, more water and fertilizers and more efforts of scientific research and management to millet production. We should establish rational regulations in procurement, pricing and evaluation and awards. We should promote a relatively quick restoration and development of millet from many aspects.

9296
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SUZHOU PADDY RICE HIGH-YIELDING CULTIVATION POPULARIZED

Beijing RENMIN RIBAO in Chinese 14 Apr 82 p 2

[Article: "Suzhou Prefecture Utilizes the Sirgle Season Rice Cultivation Center as the Center for Demonstration To Popularize Again the Experience of Chen Yongkang To Cultivate High-Yielding Paddy Rice"]

[Text] The fervor to relearn and popularize the experience of cultivating high-yielding paddy rice by farmer-paddy rice expert Chen Yongkang [7115 3057 1660] is surging in the Suzhou Prefecture in Jiangsu Province.

During the last 2 years, Suzhou Prefecture implemented the policies of agricultural readjustment. The area of single season rice has been restored to about 50 percent. Because the broad numbers of cadres and commune members have planted very little single season rice since the 1970's, the techniques of cultivating single season rice have generally become unfamiliar. Starting from last year, the administrative office of the Suzhou Prefecture invited Chen Yongkang to establish demonstration points for the single season rice cultivation center in 8 counties of the prefecture. Each county established 16 experimental sites to learn Chen Yongkang's paddy rice cultivation techniques according to the types of zones.

In the 1960's, Suzhou Prefecture launched activities to learn Chen Yongkang's experience in paddy rice cultivation. Today, the prefecture again organized efforts to learn and popularize Chen Yougkang's experience and further pushed forward the efforts of farmers to learn science and use science. Chen Yongkang's every field conference, reporting meeting or demonstration attracted many farmers. Ordinarily, a continuous stream of people visits his demonstration center to visit and learn.

Suzhou Prefecture has realized preliminary results in relearning and popularizing Chen Yongkang's experience in cultivating high-hielding paddy rice. The unit yield of paddy rice at the 9 demonstration points of the center throughout the prefecture has averaged an increase of 21.4 percent in yield over the unit yield of the large fields planted by the local brigade. This year, Suzhou Prefecture has decided to expand the original demonstration fields of the center to become a model production team and brigade. At the same time, it will invite Chen Yongkang to help train a technical backbone force and "technical families."
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SOME TRICKY PROBLEMS IN SUMMER DISTRIBUTIONS HIGHLIGHTED

Jinan DAZHONG RIBAO in Chinese 19 May 82 p 1

[Article by Commentator: "Consider the Interests of the Three in Doing an Effective Job of Summer Distributions"]

[Text] This year Shandong Province's summer distribution work poses many new situations and new problems, the major ones of which are the following: 1. An extremely imbalanced situation in bumper and poor wheat harvests resulting from the serious drought. 2. New developments and changes in forms of agricultural production responsibility systems with a change from distributions according to workpoints to a very large increase in units that have engaged in "contracting, delivering, supplying and keeping in stock." An appreciable number of these did not change their form of responsibility system until after fall planting or even until this spring. Inasmuch as time has been short and experiences inadequate, remaining problems are considerable. 3. The grassroots leadership teams in a minority of units are slack, and some are even in a state of semi-paralysis or paralysis. The above situations demonstrate that difficulties will be great and tasks formidable in doing an effective job of summer distribution this year. All jurisdictions should genuinely strengthen leadership and take vigorous action. They should first effectively investigate and study, and devote efforts to understanding matters pertaining to this year's summer distributions such as the state of grassroots leadership teams, forms of responsibility systems, disaster situations, output, earnings, financial accounts, and cadre and mass thinking so that they will be clear about situations and do a good job about some of them straightaway. Second, they should run various kinds of pilot projects on the basis of different forms of responsibility systems to gain effective experience and provide tailored guidance. Third is attention to weak links, providing major help to those units in which leadership teams are paralyzed or semi-paralyzed, the forms of responsibility systems shaky, and financial management chaotic. When an effective job of summer distribution work has been done so that the party's policies will be carried out and honored, agricultural production responsibility systems can be further stabilized and perfected to stimulate cadres and the masses to use greater zeal in winning an all-around bumper harvest from agriculture this year.

Proper handling of the three relationship, concurrently considering the interests of the state, the collective and individuals, is a fundamental principle that must be upheld in distribution work, and it is also a major indicator in judging how well distribution has been done. Overly high state procurement and overly high accumulations in disregard of the welfare of the peasants dampen peasant enthusiasm. Consideration of peasant interests alone without consideration of the interests of the state or the collective can impair development of production, impair national construction, and in the end can also damage the peasants' long range interests. In this year's summer distributions, handling of the relationships of the three will be manifested more conspicuously in grain than in previous years, and will require arduous and meticulous work to achieve consideration of peasant interests, provide for commune members livelihoods, calm their feelings and encourage their efforts and, at the same time, to do an effective job of collective withholdings and fulfillment of state procurement quotas. Last year, despite a provincewide reduction in grain output, 10 counties contributed more than 100 million jin of grain to the state, and in 14 counties the grain contribution per capita averaged more than 130 jin. These included five counties in which per capita grain contributions averaged more than 200 jin. They supported units in which production of economic crops is concentrated where grain does not suffice, and they supported national construction. Such a spirit of love for the country, love for the collective, love for socialism, and "treating the entire country as a chessboard" should be carried forward. This year those units in which assumption of responsibility for grain quotas is small and increased wheat output great should be mobilized to carry forward this spirit. While assuring no reduction in commune member grain rations and in collective withholdings or even slight increases, they should sell some more wheat to the state. Disaster stricken units with declines in output should also give close attention to these three matters. Last year a small number of units pursued only commune member distribution norms, making no or few withholdings for accumulation. Amounts that should have been withheld were not withheld, or excess distributions were made. As a result, the collective had nothing to work with to the impairment of production growth. This lesson must be borne in mind.

Most important in distributions within the collective economy is implementation of the principle of distribution according to work. Most contract agreements signed this year by most units, production teams, and individual contractors provided for production quotas, remuneration of labor, bonuses and penalties, as well as state procurement and collective withholdings. Contracts embody the principle of distributions according to work and the principle of concurrent consideration for the welfare of the three. They should have the force of law and should be abided by and honored in the course of distribution and not scrapped at will. If serious decline in output as a result of natural disasters necessitates contract revisions, this must also be done only through discussion and concurrence on the part of both parties. Preferential treatment and care of the families of martyrs and servicemen, households enjoying the five guarantees [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's commune], and hardship households bears on cementing of relations between the military and civilians, and assuring social tranquility and unity. It is a major matter that demonstrates the superiority of socialism, and this work must be done well in accordance with policy policies. Production brigade and production team cadres carry heavy responsibilities. All work devolves upon them, and they should be given compensation that is slightly higher than that given for the same labor in the brigade or production team. It is also essential that schoolteachers in schools run by the people, barefoot doctors, and other people providing services in collective enterprises be equitably compensated. In short, distributions are a major link in economic activity, and are the collective embodiment of the party's rural economic policies in rural villages. The time for this summer's harvest is fast approaching, and summer distribution work must be done promptly and effectively.

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TIGHT MANAGEMENT OF WATER RESOURCES URGED

Jinan DAZHONG RIBAO in Chinese 21 May 82 p 1

[Article: "Increased Centralized Management to Improve Water Conservancy Benefits. Heze Prefecture Solves New Problems in the Fight Against Drought in the Wake of Fixing Output Quotas Based on Households"]

[Text] In view of the new situation following general practice of production responsibility systems fixing outputs on a household basis or large scale assignment of responsibilities, Heze Prefecture has correctly handled the relationship between centralization and contracting in the use of water to fight drought. It has instituted a system of several centralizations and several contractings for water sources, water equipment, and water conservancy facilities to make full use of benefits from water conservation facilities.

In the course of fighting drought to save the winter wheat harvest and to save spring planting, the Heze Prefecture Committee and government administrative offices learned that all units that had done a good job of launching combat against drought had done so as a result of collective strengthening of water conservancy facilities management and their centralized use. On the other hand, because some units had slackened collective management, had divided up machine pumps, did not have open ditches, and had management that was in a state of chaos, their movement to combat drought and protect the wheat harvest and spring planting had been impaired. In light of this situation, both the CCP Committee and government administrative offices emphasized the need to give attention to "centralization" in the use of water to combat drought. Each of the brigades in the prefecture conducted surveys to find the reasons why units had not "centralized" water for irrigation, giving practical help in solving the problem. In thier use of water to fight drought, each county and commune substantially used a "six centralization" method as follows: centralized planning of water conservancy facilities; centralized construction; centralized management and use; centralized allocation of water resources and water equipment, centralized fee collection standards, and centralized solution to remuneration for operators and personnel tending sluice gates and ditches. All communes and brigades adapted general methods to local situations in centralized form. The method adopted by Libentun Commune in Dingtao County was as follows: Major farmland capital construction projects such as main and branch ditches, culverts, and sluice gates were under centralized organization, management and use of communes, fees being apportioned on the basis of the amount of benefit each unit received. Lateral ditches, sublateral ditches, and small feeder ditches under centrally organized and constructed by brigades. Canals, bridges, and culvert gates were looked after by specific people. Water resources were centrally allocated for centralized use. Centralized use arrangements were made by collectives for production team machines. There were specific operators, specific remuneration, and a well defined responsibility for maintenance and use. Machine repair expenses were paid for out of withholdings. From a foundation of centralized management of its water conservancy facilities, the Sunlaojia Commune in Cao County set up a water conservancy and irrigation service team. The service team was composed of more than 10 people, and each two operators constituted a service unit assigned to a pumping machine (including machine, pump, pipes, and associated tools) under direct commune leadership and centralized direction. Emphasis was on helping units lacking irrigation equipment to gradually set up their own irrigation system and management methods.

As a result of its centralized management and use of water to combat drought, virtually all of Heze Prefecture's more than 300 large water pumping stations, its 86 large and medium size streams, and its more than 40,000 pump wells were in use.

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INCREASING PURE COTTON FABRICS PRODUCTION URGED

Beijing RENMIN RIBAO in Chinese 12 Apr 82 p 2

[Article by Shang Daijiang [1424 0108 3068] and Hu Taichun [5170 1132 2504]: "Organize Production According to State Plans; Shanxi Textile Industry Actively Increases Production of Pure Cotton Fabric"]

[Text] Workers of the textile industry in Shanxi Province have correctly handled the relationship between local profits and overall profits, appropriately reduced the output of long staple products according to state plans, and actively increased the output of pure cotton fabric. At present, 908 weaving machines that produce long staple products have been converted for weaving pure cotton products.

The textile industry in Shanxi Province has always been involved mainly with the production of cotton cloth. Pure cotton fabric constitutes over 80 percent of total output. Besides supplying its own province, over half of the products is shipped to other provinces according to state plans. Because the production value and the profits from producing cotton textiles were low, this province has gradually converted more than 1,000 weaving machines to produce fabrics with a high production value since 1979. Up to the end of last year, the output of fabrics of a high production value as a percentage of the total output increased from 8 percent in the previous year to 13 percent.

The Shanxi Textile Printing and Dyeing Plant has a total of 936 weaving machines that produce fabrics of a high production value. According to unified arrangement by the Provincial Textile Department, 600 machines had to be converted to produce pure cotton fabrics. The factory therefore lost more than 300,000 yuan in income. The workers discussed the situation and proposed that as long as the state and the people need such products, no matter how difficult, they will bear it. In less than 1 month, they completed the task of conversion. To reduce loss in conversion to the minimum, the workers of the textile industry in Shanxi exerted efforts to increase the economic gain. The three textile mills of Linfen, Xiangfen, Houma in the Linfen Prefecture launched competitive activities to compete against each other in goals, in accounting, in finding differences, and in developing potential. In January and February of this year, the quality of cotton cloth produced by these three mills visibly improved over that of the same period last year, and consumption of such raw materials as cotton yarn was reduced by a large scale.

9296
CSO: 4007/372

SHANXI

JINDONGNAN EXPANDS MILLET PRODUCTION

Beijing RENMIN RIBAO in Chinese 13 Apr 82 p 2

[Article: "Suiting Measures to Local Circumstances, Rationally Arranging Planting, Jindongnan Develops Advantages of the Locality To Expand the Planting of Millet"]

[Text] Editor's Note: Under the guidance of state plans, suiting measures to local circumstances in rational planting is an important principle in guiding and arranging agricultural production. Not only must food grain crops and diversification be rationally arranged, the problem of rational arrangement of food grain crops themselves also exists. The needs of the state and the masses must be satisfied. Characteristics of the natural conditions of the localities must be studied. The advantages must be developed and the shortcomings must be avoided. Superiority must be developed. Expanding the planting of millet in Jindongnan is a measure to develop the superiority of the arid mountain areas and to realize better economic gain. The masses will have millet to eat and livestock will have feed grain and grass. This benefits the nation and the people, and why should we not do such a good deed?

For a time, under "leftist" ideological influence, the Jindongnan Prefecture not only singularly emphasized planting food grains, it also allowed only sorghum, corn and such so-called "high yielding" crops to be planted, and millet was completely prohibited. In this way, one cannot talk about starting out from the actual situation. Today, communes and brigades have a definite autonomy, and under the guidance of state plans, as long as we are skilled at summarizing the experience and at suiting measures to local circumstances, agricultural production in Jindongnan Prefecture will surely develop an even greater potential.

Report by correspondents Wang Jinshui [3769 6855 3055] and Chen Maosheng [7115 5399 4141]: The Jindongnan Prefecture has suited measures to local circumstances in arranging planting, developed the superiorities of the locality, expanded the production of millet, and last year, 160,000 mu were sown, and this year, the area expanded further to about 2 million mu.

Millet is a traditional food grain crop in Jindongnan Prefecture. In the past, farmers planted millet actively and provided a large amount of millet to guarantee the needs of the military and food for civilians and to support the revolutionary war. A leading comrade of the Party Central Committee inspected Jindongnan Prefecture not long ago and pointed out: "The millet of Jindongnan is famous...In the whole nation, millet of northern Shaanxi and the millet of this region are good. I agree with you in planting more millet."

For a long time, under "leftist" ideological influence, millet was also criticized. The sowing area of millet throughout the whole region has lessened by more than 1 million mu since the beginning period of liberation. Even though unit yield has increased, because the area has lessened, the total yield has dropped from the highest annual yield of more than 600 million jin to about 500 million jin. The percentage of the supply of millet has also lessened year by year.

The natural conditions in Jindongnan Prefecture are superior for planting millet. The growth season of millet coincides with the rainy season in the southeastern Shanxi region. Therefore, the yield is more stable than that of corn, sorghum and wheat. Millet is tolerant to drought and waterlogging. Its adaptability is strong, its nutritional value is high, and the masses love to eat it. It can be planted at more than 300 communes throughout the region. Every county and commune has the typical experience of producing bumper harvests of millet. Jinqing Brigade in Huguan County is a dry rock mountain region at more than 1,200 meters above sea level, and it is a place where water sources are extremely deficient and where the frostless period is short. Farmers have developed the experience of scientific planting of millet in practices of autumn tilling to strengthen upturning of the soil, preparing the land for three types of moisture, storing water and retaining the soil, and improving soil fertility. At the beginning of the 1960's, the per mu yield of millet reached 500 jin. Since the 1970's, the per mu yield has remained at above 800 jin. There were 4 years in which the per mu yield broke the 1,000 jin mark. In the year of the highest yield, per mu yield reached 1,041 jin, and the ridiculous theory that "millet is low yielding" has been broken.

Huguan County, which is arid and lacks water, popularized the experience of Jinzhuang over large areas and realized outstanding results. Huguan had a major drought in 1980. Most communes, brigades, people and animals had difficulty in obtaining drinking water. The whole county popularized the experience of Jinzhuang on an overall basis. The average per mu yield of millet still reached 413 jin, and total yield increased by 8.7 million mu. Of the food grains submitted and sold to the state, millet constituted 53 percent. Of the rationed food grains of commune members, millet constituted 35 percent. Everyone responded by saying this is a good thing, which benefits the state and the people.

The committee and the administrative office of the Jindongnan Prefecture was inspired by the large area popularization of the Jinzhuang experience in Huguan County. They calculated that if the area of millet throughout the whole prefecture reaches 2 million mu, the yield would reach the level of output of the 1970's in Huguan County. The total yield of millet throughout the prefecture would reach more than 700 million jin, and 1.5 billion jin of straw could be produced. In this way, the masses would have millet to eat, large livestock would have straw as feed, the husk of millet could be provided as raw material for the wineries, and it could also be used to raise hogs and chickens. The production cost of millet is low, equivalent to only half that of wheat. In the overall balance, planting millet has more benefits than planting other food grain crops.

To expand the planting of millet, the committee and the administrative office of the prefecture held a field meeting on millet production for the whole prefecture at the Jinzhuang Brigade in Huguan County as early as September of last year. Delegates from all localities conscientiously learned the Jinzhuang experience. Before sowing wheat in autumn of last year, arrangements were made to expand the planting of millet. Autumn tilling and upturning of the soil were grasped in a big way, and fertility was accumulated and the land was prepared. At present, each locality throughout the prefecture is actively shipping fertilizers and preparing superior seeds to develop local superiority and seize a bumper harvest in millet, and each locality is carrying out intensive activities to prepare for planting.

9296
CSO: 4007/372

FIGHT AGAINST DEEPENING DROUGHT CONTINUES

Tianjin TIANJIN RIBAO in Chinese 17 May 82 p 1

[Article: "Four Thousand Rural Cadres Go Into Frontlines of Fight Against Drought. Cutbacks in Conferences and Temperary Halt to Vacations As Drought Dramatically Deepens"]

[Text] During this serious time of dramatic deepening of the drought, leaders at all levels in the municipality's rural villages have organized 859 suburban and county cadres and 3,677 commune cadres to hurry to the 97 key communes where tasks in fighting drought are heavy, hardships numerous, and potential for increases in yields great to struggle alongside the broad masses of the people against drought.

After these cadres had arrived in the communes and brigades, they first guided the broad masses of people in shoring up their confidence, in overcoming fear of hardships and a psychology of waiting for the heavens to rain, and worked together with the masses to study specific measures to be taken to fight drought, and solve genuine hardships in the work of fighting drought. In order to make the most of benefits from existing pump wells, principal leaders in Wuqing County diligently increased pump installations, changed pump diamters, tightly sealed pipes going into the well at the wellheads, and refitted center line wells. They led the masses in self-reliantly changing existing pumps, giving new life to 497 dead wells from which no water flowed as a result of a drop in the water table for an 18,000 mu expansing of the irrigated area. Ji County CCP Committee Secretary Wang Shuliang [3769 2885 5328] went to seriously drought stricken Tayuan Brigade in Guanzhuang Commune where 11 of the brigade's 12 pump wells have gone dry and where people and animals face extreme hardships in getting drinking water. Together with the cadres and masses he studied actions to be taken. They sank a well in each of the two hamlets of Lincun and Xiaocai, which had a fair amount of ground water, and they erected steel pipes to solve people's and animals' drinking water problems and the problem of a source of water to be carried into the fields to dibble deeds on 1,000 mu. At Taitou Commune, Jinghai County CCP Committee Secretary Tong Zemin [0157 3419 3046] made the most of the fair amount of water lying not far below the surface locally by getting the masses to sink more than 800 hand pump wells and dug wells walled with bricks. Within a period of only 3 days, he got the masses to carry water to dibble seeds on more than 1,300 mu, and he also got the commune and brigades to put up the funds to buy 10 new spray irrigation apparatuses so as to expand the irrigated area by more than 4,000 mu. Leadership cadres in the western suburb and in Ninghe County uncovered and solved problems in cooperation with grassroots cadres and commune members, vigorously advancing progress in combating drought and doing spring planting.

In order to concentrate energies on the fight against drought, all suburbs cut back on the number of meetings and temporarily suspended regulations permitting cadres to rotate vacations. The suburbs and counties of Wuqing Baoshi, western suburb, and Tanggu set up commune cadre work position responsibility systems, and adopted methods of linking together garden team division of labor in fulfillment of grain and vegetable production norms and proportional distribution of profits from sideline occupations to solve the problem of a tendency to regard sideline occupations as superior to farming. In addition, all suburbs and counties did everything possible to reduce non-productive expenditures. More than 3.88 million yuan of local public funds was alloted to help communes and brigades in their struggle against drought, and the masses were aroused to chip in more than 11 million yuan to assure no hitches in the fight against drought to assure a wheat harvest and spring planting.

More than 900,000 people throughout the city are now engaged in the struggle against drought. Water is being hauled on carts, on poles by people, and on the backs of animals for the watering of 1.5 million of the municipality's more than 1.9 million mu of winter wheat, and a second watering of more than 880,000 mu as well. More than 2.4 million mu of field crops have been sown through fighting drought. This amounts to 60 percent of the task, and almost 400,000 mu was planted by dibbling seeds in the fight against drought.

9432
CSO: 4007/448

YUNNAN SEEKS TO REPAIR COLD WEATHER CROP DAMAGE

Kunming YUNNAN RIBAO in Chinese 14 May 82 p 2

[Article: "Zhaotong Prefecture Fights Disaster to Win Bumper Harvest. Not Fearful of Difficulties Despite Drought, Prefecture Has Resown More Than 8,000 Rice Seedlings and Replanted More than 5,000 Mu of Corn"]

[Text] Following recurring natural disasters, the rural communes and brigades of Zhaotong Prefecture did not lower their heads or fear difficulties, but aroused cadres and masses to base themselves on a fight against disasters to win a bumper harvest. As of 25 April, 8,023 of the prefecture's 9,051 mu of rotting rice seedlings had been replanted, and an additional more than 2,300 mu of flue-cured tobacco seedlings sown.

Zhaotong Prefecture has had calamitous weather ever since April, temperatures remaining low for a fairly long time. Some counties had one hailstorm after another and damage from flooding and waterlogging, which caused serious damage to both crops sown in late autumn and early spring as well as to rape and tobacco seedlings, and to fruit trees. Serious rotting of rice and tobacco seedlings occurred, and a large amount of corn rotted. After the disaster, comrades in positions of responsibility in the Prefecture CCP and government administrative offices went separately to Suijiang, Weixin, Qiaojia, Daguan, Yanjin, Zhenxiong, Shuifu, Ludian, and Zhaotong counties to survey and gain an appreciation of the disaster situation. They called upon cadres and the masses throughout the prefecture to carry forward a great dauntless spirit of courage and tenacity in the face of the disaster, to overcome fears of difficulties and slackness, and to triumph over the disaster to do a good job of spring farming. Specifically, they took three actions as follows: 1. Growing of rice and tobacco seedlings. In order to assure the right season for transplanting, they intensified care of plots where the disaster and the rotting of seedlings had not been too serious and used every available means to grow sturdy seedlings. Fields in which losses were in excess of 80 percent were plowed under and resown. For resowing of rice seedlings, intermediate and early ripening varieties were used throughout. Insofar as possible plastic mulch was used to grow seedlings and hot, quick acting fertilizer was spread. Beginning now, organizational work for the transfer of seedlings from surplus areas to shortage areas is being done. 2. Attention to the season to hasten the pace of corn planting so as to avoid summer drought and autumn waterlogging. 3. Peasant households without the resources to solve hardships created by resowing and replanting following disasters plus disasters sustained to autumn sown crops were given appropriate relief by civil government departments. All counties in the prefecture responded to the Prefecture CCP Committee's call to active participation in the struggle against drought. As a result of efforts on the part of cadres and masses throughout Shuifu County, resowing of rotted seedlings has been entirely finished. Weixin County is now planting more than 130,000 mu of corn, and in order to assure full stands, in addition to increased fertilization at the time of sowing, they have promoted fine varieties, made sure to process seeds, and have done reasonably close planting. In addition 884 production teams have readied corn seedlings for prompt seedling replacement.

9432
CSO: 4007/448

AUTHOR: CHEN Zuolin [7115 0155 7207]

ORG: None

TITLE: "Accelerating the Development of Animal Husbandry"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Jun 82 pp 5-7

ABSTRACT: In the past, it was said that more animals more fertilizer, more fertilizer more grains, to explain the dialectic relationship between farming and animal husbandry. This is not sufficient to illuminate the importance of animal husbandry in the national economy, however. Animal husbandry products are required by departments of textiles, foods, leather-making, feather processing, chemistry, pharmaceuticals, and export trade. Just as Chairman Mao said: "An economy without animal husbandry is an incomplete national economy." The author urges that the position and function of animal husbandry should first be fully understood and acknowledged before related policies, scientific studies, and technological extension work are developed to promote and improve animal husbandry. Detailed measures to be adopted are offered.

AUTHOR: None

ORG: Chinese Agricultural Bank Survey Group

TITLE: "Attend to the Work of Reserving and Managing the Capital Accumulated by the Collective Body"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Jun 82 pp 30-31

ABSTRACT: A survey was carried out in Feb-Mar 82 in Xuxian of Anhui Province for the purpose of understanding the condition of management of the originally accamulated capital and the condition of accumulation of new capital of the collective bodies after the adoption of the system of guaranteed production by households of production teams. The situation in Xuxian Prefecture is found by the survey team to be greatly improved, but new problems have also surfaced. For example, on the basis of the total value of products, the ratio of reserved common capital is lower. The paper suggests the following: (1) A percentage must be reserved from the production income for the depreciation of fixed and liquid assets which still belong to the collective body. (2) Concrete methods of managing the common capital reserve, the depreciation fund, and the loans (including seeds, chemical fertilizer, and cash) borrowed by the household for production from the common reserve. (3) There should be a definite and reasonable ratio (3-5 percent is too low) to be taken as a common reserve and the banks and credit unions should help the communes and brigades manage the funds properly.

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TITLE: "Accelerate the Pace of Agricultural Development of the Region of the Huanghe-Huaihe Plain in Eastern Henan"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Jun 82 pp 40-41

ABSTRACT: The Huanghe-Huaihe Plain of eastern Henan is flat. The total area of 23 thousand km^2 has a thick layer of topsoil. The cultivated acreage is 22.2 million mu; with a population of 13.47 million, the per capita farm land is 1.8 mu. It is a base of wheat production of the province as well as one of the 4 cotton producing regions. After carrying out a survey of the region, the authors believe that its natural conditions of light, heat, and water are relatively superior, the potential for agricultural production is great, and the capital requirement for its development is not great. The following measures and procedures are suggested: (1) The first necessary item is afforestation. (2) Aridity and low organic matter content of soil should be taken care of by irrigation with water from Huanghe and enlarging the acreage of beans, which will help resolving the problem of firewood shortage as well; (3) Reconstructing the sandy fields; (4) All out development of animal husbandry; (5) Establishing bases of wheat, soybean, cotton, etc. in a suitable degree of concentration; (6) Raising the level of scientific cultivation.
6248
CSO: 4011/148

AUTHOR: JIANG Fukun [3068 4395 0981]

ORG: Shanghai Cotton Spinning Plant No 7

TITLE: "Investigation Into the Quality of Shandong Cotton"

SOURCE: Shanghai FANGZHI XUEBAO [JOURNAL OF CHINA TEXTILE ENGINEERING ASSOCIATION] in Chinese Vol 3 No 4, 1982 pp 55-57

ABSTRACT: Shandong Cotton, Lumian No 1, is the high yield breed of 1980. After it was examined, accepted, and used by the cotton spinning plants, it was compared with unprocessed cotton produced in other regions. An investigation was carried out into its quality, its degree of maturity, and the reason for its low single fiber strength. Shandong Cotton is compared with 21 other raw cottons in terms of color, luster, fineness (m/g), maturity (coefficient), strength (g), breaking length (km), length of main body of fiber, evenness, and short staple. Aside from fiber whiteness, Shandong Cotton is generally half to one grade lower than the national cotton indices. The relationship between the number of days of growth of cotton bolls and such fiber properties as fineness, length of main fiber, single fiber strength, and coefficient of maturity is discussed. Analysis reveals that color absorption is the best with American Cotton and Hubei Cotton, mainly because their degree of maturity is better. Not only that the spinning plants have had the above problems with Shandong Cotton, it is also poor in terms of economic accounting, its only advantage of low foreign matter content notwithstanding. Its high yield in 1980 remains a matter to be congratulated. It should be possible to overcome the aforementioned problems.

6248
CSO: 4011/155

Cotton Disease Research

AUTHOR: None

ORG: Yunnan Provincial Cooperative Group For Comprehensive Prevention and Control Research of Cotton Fusarium Wilt and Verticillium Wilt

TITLE: "Summary of Research on the Comprehensive Prevention and Control of Cotton Fusarium Wilt and Verticillium Wilt in Yunnan Province"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3,25 May 82 pp 26-27

ABSTRACT: Cotton wilt is a destructive fungus disease, having been listed among the objects of inspection by the State. It had been discovered in Yunnan in scattered areas long ago but there was no spreading. After a large quantity of contaminated seeds were transferred into the province from Hubei in 1969-70, the diseases surfaced in 1970 and continued to spread rather fast after 1972. The yield dropped wherever the diseases touched. In Binchuan, it had dropped from the 72 jin/mu of 1966 to the 21 jin/mu of 1973, nearly the level at the time of the liberation. The cooperative research group was organized in 1972 to launch large acreage pilot fields to demonstrate comprehensive prevention and control measures centering upon the use of disease resistant breeds. The unit yield of the pilot fields rose from the 46 jin of 1975 to the 92.57 jin of 1980. In 1975-76, a general and sample survey was carried out in areas totaling 116,441.54 mu, of which the diseases were found to affect 95,392.59 mu, amounting to 81.92 percent. The number of diseased plants may be reduced from about 50 percent to 12-20.7 percent, when the cotton field is rotated with paddy rice crops for 1-2 years and down to 0.3-3 percent after 3 years of crop rotation with paddy rice.

6248
CSO: 4011/151

AUTHOR: None

ORG: Shanghai Municipal Cotton High Yield Culture Cooperative Group

TITLE: "Potential for Yield Increase Examined From the Viewpoint of the Yield Structure of Cotton"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 81 pp 12-13, 19

ABSTRACT: The yield structure of cotton includes the number of bolls per mu, the boll weight, and the ginning turnout. There is a mutually dependent and mutually restricting relationship among the 3 factors, however. When the degree of effect of the 3 factors on the yield is clarified, the major direction of future efforts may be more correctly determined for the purpose of developing the yield increase potential. An experiment was carried out jointly by the Shanghai Municipal Academy of Agricultural Sciences, Shanghai County Institute of Agricultural Sciences, and Chongming Institute of Agricultural Sciences in 8 plots. Statistical analysis of the resulting yield, which coincides with the result of actual production in a large extent, reveals that when the breed is not changed, the variation of ginning turnout from year to year does not change the yield regularly because the variation is often the result of the weight of some defective seeds. The number of bolls per mu is found to vary less for transplanted cotton, compared with direct seeded cotton, while there is a greater variation in weight with plants transplanted into wheat mounds than those transplanted after the wheat harvest. Aside from

[continuation of SHANGHAI NONGYE KEJI No 6, 1981 pp 12-13, 19]

conditions of the weather and the management of water and fertilizer, the authors believe the one obvious problem at present is the previous crop. If the acreage of late maturing crops before the cotton crop continues to increase, the cotton will necessarily be late flourishing, the bolls be light in weight, and the yield low and unstable. In large area production, the number of bolls per mu is found to fluctuate a great deal. The paper concludes that the ratio of cotton acreage in fields of late maturing previous crops must be reduced so as to maximize the use of effective boll formation stage. While the system of cultivating seedlings for transplanting is being developed, the area of early maturing previous crops must be guaranteed for cotton culture for the purpose of developing fully the yield increase potential of cotton.

6248
CSO: 4011/153A

AUTHOR: ZHU Peihua [2612 1173 5478]

ORG: Shenyang College of Agriculture

TITLE: "Effect of Seeding Time on the Growth and Development and the Yield Structure of Millet"

SOURCE: Dalian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 2, 15 Apr 82 pp 11-17

ABSTRACT: For the purpose of finding the suitable millet seeding time in Shenyang and Tieling regions, the author and colleagues experimented with seeding it on 15 Apr, 25 Apr, 5 May, 15 May, and 25 May to observe the morphology of the plants and to carry out growth and quantitative analyses. The experiment was repeated for 2 years from 1980-81. The results of the experiment indicate that the suitable seeding time in these regions is the period from 15 Apr to 5 May, with the days around the 25th of Apr the best of all. Moreover, these experiments also help clarify the distribution process of the assimilation products of millet of different seeding times and the physiological basis of the yield formation. The interrelationship between the growth and development principle of millet and the internal and external factors is thus understood. Results of the experiments are analyzed and reported.

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ORG: Department of Chemistry, Jilin University

TITLE: "A General Discourse of Trace Element Fertilizers"

SOURCE: Dalian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 2, 15 Apr 82 pp 34-36

ABSTRACT: In the growth and development process, crops need a great deal of carbon, hydrogen, oxygen, nitrogen, phosphorus, and potassium and the quantity of molybdenum, boron, zinc, manganese, copper, etc. needed by the crops is very little and these are commonly called trace elements. Generally, soils are not deficient in trace elements but their contents in soils vary as much as 100-fold. Alkaline soils may easily be deficient in boron, zinc, copper, etc. and in acid soils, effective molybdenum often precipitates under the action of the free iron and lead in the soil. Moreover, when the crop repeating index is increased, the phenonmenon of trace element deficiency may also appear. These trace elements have important biological function in the body of animals, plants, and microbes; they are components or activators of many enzymes in plant bodies and they affect mainly the metabolism of the plants. In China, experiments with trace element fertilizers have had a history of only 20+ years. In 1978, about 2,000 tons were applied to 25-30 million mu of cropland, amounting to 1.7-2 percent of the total acreage of the country. The application and function of molybdenum, boron, zinc, manganese, copper fertilizers in China are briefly and separately reported. The paper also discusses briefly signs of soil trace element deficiency and the danger of overabundance of trace elements.

AUTHOR: HUA Genlin [5478 2704 2651]

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TITLE: "A Proposal for the Development of Yams in Chaoyang Prefecture"

SOURCE: Dalian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 2, 15 Apr 82 pp 40-43

ABSTRACT: In Chaoyang Prefecture, the yield of crops is unstable. In 1979, the year of the highest yield in the 30 years since the liberation, the average yield was 412 jin/mu but it dropped to 114 jin/mu in 1981, the year of the second to the worst harvest in these 30 years. The chief problem is aridity and the solution is soil and water conservation with emphasis on afforestation and grassland culture to establish a favorable ecological system and thus reinforcing men's ability of controlling nature. On the other hand, different crops react differently to aridity and soil fertility. In thin soils with no fertilizer, the yield of sweet potato or yams is higher than corn and under the condition of high fertility, the reverse is the case. Of the 7.8 million mu of cropland in Chaoyang Prefecture, more than 70 percent are mountain slope thin soils, which are suitable for yams. For the purpose of reasonable utilization of land to improve the economic benefits, it is absolutely necessary to restore and further develop yam production. The yield increase results of yam crops, their economic benefits, their action in improving the ecological environment, and their drought resistant and poor soil tolerance are described in some detail. The author urges the establishment of experienced technical teams and the extension of technical knowledge through broadcasting, journals, and newspaper articles to reestablish and develop a sweet potato culture in the prefecture, which the masses were forced to abandon during the decade of turmoils.
6248
CSO: 4011/128

Insecticide Characteristics

AUTHOR: WU Wenjun [0702 2429 0689]

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TITLE: "Mechanism and Toxicological Characteristics of Carbamate Insecticides"

SOURCE: Beijing KUNCHONG ZHISHI [ENTOMOLOGICAL KNOWLEDGE] in Chinese Vol 19 No 2, Mar 82 pp 40-42

ABSTRACT: It is generally believed that carbamate insecticides suppress the acetyl cholesterol enzyme (AChE) in the body of the insect but for a long time, there have been 2 different views on this supressing action: By combining with the AChE to produce a stable compound and thus causing the AChE to lose its activity, or by a chemical reaction with the AChE to produce aminoformacyl enzyme and thus suppressing the AChE activity. Through analyses of the chemical reactions, the paper demonstrates that the shortcoming of the first viewpoint is the denial of the existence of the aminoformacyl reaction; that of the second is to equate carbamate insecticides with organophosphatide insecticides. Both are onesided. Through a detailed explanation of the 5 toxicological characteristics of carbamate insecticides, the paper further explains that the carbamate insecticides depend mainly on their very small K_d value while the organophosphatide insecticides depend upon their relatively large K_2 value and relatively small K_3 value. The antidote for the latter is; therefore, not effective for the former, when vertebrate animals are poisoned by either of the two.

6248
CSO: 4011/154

AUTHOR: None

ORG: Grain Cultivation Office, Institute of Crops, Shanghai Municipal Academy of Agricultural Sciences; Technology Extension Station, Municipal Bureau of Agriculture

TITLE: "Opinions Concerning the Late Crop Rice Cultivation Technology in 1982"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 1-3

ABSTRACT: In the suburbs of Shanghai, there are 2 million mu of late rice crop, amounting to 80 percent of the total autumn grain acreage. The yield has never been stable, averaging 599.4 ± 85.8 jin, a variation coefficient as high as 14.3 percent. The yield of the 2 recent years was extremely low, only 362 jin in 1980. Based upon the experience of some high yield units and related research data of the academy, the following suggestions are offered to change the low and unstable yield condition: (1) Older and stronger seedlings should be cultivated; (2) Hurry to transplant on 2-14 Aug because a yield reduction of 23 jin may result for every one day of delay beyond this period; (3) Transplanting quality should be guaranteed through satisfactory land leveling, basic fertilizer application, and reasonable density; (4) Carrying out scientific management of fertilizer and water as well as pest and disease control measures. Details are discussed under the above categories.

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TITLE: "Research On the Problem of Strong Late Rice Seedlings in the Dual Crop System"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 3-5

ABSTRACT: Several years ago, the authors carried out some surveys and studies concerning the quality of late rice seedlings in a dual crop system. Results of the research are summarized in the paper: (1) An important factor affecting the quality of seedlings is seeding density, mainly in terms of the dry weight and the N, P, K, sugar + starch contents of the seedlings; (2) Management of fertilizer and water, emphasizing the promoting as well as controlling function of water and fertilizer; (3) Applying flowing water for irrigation to reduce the water temperature 1-2°C to combat the hot weather condition and to improve ventilation of the seedbed.

AUTHOR: HU Dian [5170 6611 1344]
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ORG: HU of Shanghai Municipal Bureau of Agriculture Extension Station; LU of Institute of Crops, Shanghai Municipal Academy of Agricultural Sciences

TITLE: "Investigation Into Problems Relating to Greenhouse Culture of Rice Seedlings"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 6-7

ABSTRACT: Several years of experiment indicates that when rice seedlings are cultivated in the greenhouse the yield is basically the same as that of regular seedbed cultivation but some seeds, the seedbed, and some labor may be saved. The greenhouse requires a great deal of capital investment and the ripening time of the rice crop may be delayed, however. In order to resolve the problem of capital investment, seedling trays have been created to maximize the use of greenhouse space, plastic tents may be used for vernalization, some costly tools may be omitted and replaced with manual labor. The greenhouse is used only 3-4 months a year to cultivate early rice seedlings; therefore, in order to raise its benefits, measures should be adopted to cultivate edible fungi, vegetables, decorative plants, etc. during the remaining months of the year for comprehensive utilization and fast return of capital.

AUTHOR: WANG Huiying [3769 1920 5391]
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ORG: None

TITLE: "Preliminary Investigation Into the Yield Increase Effect of the Technique of Covering the Ground Surface of Cotton Field With Plastic Film"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 16-18

ABSTRACT: Covering the ground surface of cotton fields with plastic film is known to have the effects of raising the temperature, conserving moisture, and promoting decomposition of soil nutrients. The technique has been gradually extended in the north where the frostfree period is short, the temperature is low, and the rainfall is sparse. Obvious yield increase effects have been demonstrated there. In 1981, the authors carried out a small area experiment with this technique in the experimental farm of the academy to study its yield increase potential and economic benefits in the region of Shanghai. The following results are observed: (1) As the cotton seeding or transplanting time is delayed, the yield increase effect of the technique becomes more obvious; (2) The cost of the plastic film is 36 yuan/mu and the income of the yield increase is only 28 yuan. It may appear that the technique does not pay, but such processes as hoeing, weeding, banking with soil, and fertilizer application are all omitted to cut the labor by 2/3. (3) Effect of the technique during a wet year remains to be studied further.

AUTHOR: CHEN Quanqing [7115 0356 1987]

ORG: Blast of Rice Group, Institute of Plant Protection, Shanghai Academy of Agricultural Sciences

TITLE: "Analysis of Causes of Blast Epidemics in the Suburbs"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 23-25

ABSTRACT: In the region of Shanghai blast of rice affects mainly the neck of the spikes, occurring from the heading blooming stage to the starch filling stage. According to the 1973-80 statistics of the municipal Plant Protection Station, the affected acreage totals 9.123 million mu in these 9 years to cause a loss of rice grains of 20.561 billion jin. The paper analyzes the causes as follows: (1) Weak blast resistance of the late rice breeds; (2) Damaging weather in favor of blast epidemics; (3) Improper cultivation measures, including the quantity of nitrogen fertilizer inducing an imbalance of carbon-nitrogen ratio in the plant tissue, prolonged deep water level causing the soil to be deficient of air and anaerobic microbes to produce such toxic substances as hydrogen sulfide to ruin the root system of the rice plant and weaken its resistance. Concrete measures are suggested to overcome the above problems and to control blast epidemics.

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XIA Dingyuan [1115 1353 6678]
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ORG: All of Institute of Animal Husbandry, Shanghai Municipal Academy of Agricultural Sciences

TITLE: "A Research on Several Feeding Techniques to Raise the Ratio of Lean Meat of the Hybrid Swine, Du x Shang"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 5 Jun 82 pp 34-35, 22

ABSTRACT: On 11 Jan - 11 Apr 1981 and 18 Jun - 12 Sep 1981, 2 experiments were carried out to compare the lean meat rate of the hybrid, Du x Shang of 3 feeding methods: limited quantity dry feed, limited quantity soupy feed, and dry feed on demand. Results of both experiments indicate that the lean meat rate is the highest when the porkers are fed with limited quantity of dry feed, being 30.45 and 30.76 percent lean meat. It is lower with dry feed on demand, being 29.61 and 29.93 percent. With limited quantity soupy feed, the rate for the first experiment is 30.55 percent, the second 29.86 percent. With the limited quantity dry feed, the butcher rate is slightly lower than the limited quantity soupy feed group, however. The lean meat rate of these 2 experiments is lower than the 2 experiments carried out previously (59.81 and 59.74 percent) because this time the period after weaning and before the experiment is lengthened. This just goes to show that in order to obtain the highest lean meat rate, feeding should begin when the porker weighs about 20 kg.

6248
CSO: 4011/150

AUTHOR: LIU Chengliu [0491 2110 2692]

ORG: Department of Agronomy, Central China College of Agriculture

TITLE: "Reasonable Utilization of the Tillering Vigor of Hybrid Rice In View of the Tillering, Spike Formation, and Fruiting Characteristics of Nanyou No 6"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 6, Jun 82 pp 1-5

ABSTRACT: An obvious characteristic in the yield structure of hybrid rice is the high ratio of tiller spikes, amounting to about 80-90 percent of total and about 30-50 percent higher than regular breeds. Under the condition of low density, at the age of 16 leaves on the main stem, Nanyou No 6 is observed to tiller in every node except the elongated node of the main stem. The number of tillers of a single stalk is generally 15-20, appearing in various orders, locations, and times. Their rate of spike formation and spike quality vary with obvious regularity. For the purpose of acquiring the highest number of effective spikes, the ideal situation is to have 5-6 tillers from the first tillering phase and 3-4 from the second phase. Those of the third phase are generally not effective tillers. In order to achieve this situation, the seedling should have 3 large tillers at the transplanting time. The observational data of the tillering characteristic of Nanyou No 6 and a detailed cultivation procedure for obtaining the optimal number and type of tillers in order to produce the highest number of effective spikes are given.

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WEN Shaokun [3306 4801 0981]
LIU Junde [0491 0193 1795]

ORG: All of Xiaogan Prefecture Research Institute of Agricultural Sciences

TITLE: "Research on the Multiple-crop Rotation System of Rice Paddies: I.The Overall Benefits of Multiple Crop Rotation System"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 6, Jun 82 pp 12-15

ABSTRACT: Since the early 50's, there have been several reforms of the cropping system of rice paddies. By the early 70's, a system of 2 crops of rice and one crop of green manure was formed to produce yield increases for rice but prolonged continuous cropping led to deterioration of soil physical-chemical properties and diseases, pests, and weeds multiplied. In the winter of 1977, a project was launched to experiment with a comprehensive system of crop rotation. Results of 4 years demonstrate that this system has brought an increase of 30.78 percent in terms of total farm product value, an increase of food grain from 620 to 710 jin per person, an increase of 31.1 percent in grain sales to the State, and an increase of soil organic matter from 1.7882 to 2.0597 percent. The system involves rotating crops in the following order: (1) lima bean - rice - rice; (2) wheat - bean- green manure - rice; (3) green manure- rice - rice; (4) oil crop - rice - beans; (5) oil crop - rice - rice; (6) wheat - beans - cotton. Conditions of utilization of light and heat, the conversion rate of effective solar radiation, nitrogen and organic matter contents of soil under this system of crop rotation are analyzed in some detail.

AUTHOR: XU Yatang [6079 7161 0781]
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TITLE: "Selection Breeding and Utilization of Topcross Corn to Adapt to the Special Ecological Condition of High Mountains"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 6, Jun 82 pp 15-16, 5

ABSTRACT: In the alpine region of Enshi, the elevation is 1,400-1,800 m, the temperature is low, the humidity is high, clouds and fog are unceasing, sunlight is scarce, and the frostfree period is very short. With these unfavorable factors the corn yield has been very low all the time. In recent years, many breeds have been introduced from the outside and several types of hybrids have been tried. Most of these have a growth and development period too long for the region and cannot withstand the low temperature. Since 1979, the Corn Research Group of Enshi School of Agriculture has carried out a project of comparing and testing 232 hybrid combinations and 28 superior ones were identified in the first year. Of these 16 are topcrosses. One of these, Chunmuying Xiaozihuang x R-64, was picked for demonstrations in many areas of a range of elevation of 1,400-1,800 m. Its yield was, in the 2 years of 1980 and 81, 500-700 jin/mu, 21.1-98.7 percent higher than the control which was a local hybrid, Xiaoying. Characteristics of this topcross and the reasons for its superior yield are discussed.

6248
CSO: 4011/149

AUTHOR: None

ORG: Rice Cultivation Office, Institute of Grain Crops, Hubei Provincial Academy of Agricultural Sciences

TITLE: "A Study on the Cultivation Characteristics of Owan No 5: I. Yield and Growth and Development Characteristics of Owan No 5"

SOURCE: Wuhan Hubei NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 5, May 82 pp 1-4

ABSTRACT: Owan No 5 is a new late Geng rice bred out by the institute; it has been extended to more than 1 million mu within the province and the acreage is being continuously enlarged. For the purpose of promoting its yield increase effect in large acreage production, the paper introduces its agronomical characteristics, based upon the high yield cultivation and experimental data of 1981. When it was seeded on 20 Jun and transplanted on 23 Jul, in a density of 3 x 5 cun of basically 238 thousand seedlings/mu, there were 369.2 thousand spikes/mu on the average, at a spike formation rate of 69 percent; 52.2 grains/spike were obtained, at a fruiting rate of 84.1 percent. The grain test weight was 21.82 g/1000 grains. The final yield was 840.2 jin/mu at a grain to straw ratio of 0.91 : 1. An experiment for determining the effects of different seeding and transplanting dates (15, 20, 25, and 30 Jun) on its growth and development and its yield, and the reaction of this breed to temperature and light are also reported. Seeding it properly late for early transplanting of young seedlings is recommended and this characteristic is considered favorable for its extension in large areas.

AUTHOR: HU Qunxian [5170 5028 6343]

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TITLE: "Economic Effects and Key Techniques of Dry Culture of Hybrid Rice Seedlings"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 5, May 82 pp 6-9

ABSTRACT: When hybrid rice is used as the second late rice crop, it is easier to obtain high yield. It matures early and is suitable for winter seeding. With the triple-crop paddy system of Huanggang Prefecture, there is a large proportion of slow ripening early rice, however, while hybrid late rice requires an early ripening previous crop because the present hybrids all belong to the Xian type, which is very sensitive to low temperature. Results of many years of experiments at the institute indicate that seedlings grown in a dry seedbed have higher nitrogen and starch contents to cause their nutritional growth period to be prolonged and their resistance to adverse environment strengthened. There is also a reduction of labor intensity. When these upland seedlings are transplanted, they grow vigorously to form large nutritional bodies in a short time. The soil of the dry seedbed must not be too tight and must have a proper amount of moisture to allow the seedlings to be pulled easily from the soil before transplanting.

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I. GENERAL INFORMATION

COMMENTATOR CALLS FOR QUALITY CENSUS TAKING

Beijing ZHONGGUO NONGMIN BAO in Chinese 10 Jun 82 p 1

[Article by commentator: "Assure Quality in Rural Census"]

[Text] Currently preparatory work for a census in China's farflung rural village is feverishly under way. An overwhelming majority of areas have run census pilot projects to gain valuable experiences; the work of commune training census personnel has been substantially completed in most parts of the country; propaganda work about the census is being pervasively launched with many areas having made lantern slides, trained propaganda personnel, and conducted a census of middle school and primary school students. Overall the work has progressed smoothly and achievements have been very great.

However, we should also clearheadedly realize the considerable difficulties in conducting a rural census. This is because the cultural level of China's rural population is lower than that of cities, so completing the recording of as many as 19 census items must inevitably mean difficulties will be somewhat greater and that questions must inevitably be somewhat more numerous. In addition, the rural household registration system has not been sufficiently well perfected, so the foundation for census work is relatively poor. In rural communes and brigades, and particularly in the farflung border regions, people's abodes are very scattered and the migratory population is fairly great, making for inconveniences and increasing difficulties in taking the census.

We recognize the difficulties and want to overcome the difficulties to do a good job. Ours is a country of 1 billion population of whom 800 million are peasants. Quality of the rural census will decide the quality of the census for the country as a whole and will bear on whether this national census is a success or a failure. This has wide ramifications, so we must be determined to do a good job of it.

Most important in doing the rural census well is to do conscientious and extremely meticulous work. There can be not the slightest bit of perfunctory manner or carelessness. Commune and brigade leadership comrades must diligently and exceedingly meticulously organize. They cannot push this matter off on accountants or sit in an office, relying on "seems natural" to fill out forms and consider the matter finished. Instead, they must carry it out household by household and person by person. The broad masses of census takers must brave all hardships, not fear inconvenience, and fill out every single census registration form in scrupulous detail; they must postively assure no duplications, no omissions, and no errors. The broad masses of peasants should also make a conscious contribution to the census work, conscientiously and responsibly answering factually each individual census item.

China's peasants possess very high political consciousness. If only we do wide and pervasive propaganda work to mobilize them, explaining the reasons clearly to everybody, the broad masses of peasants will certainly actively cooperate and do a good job, and the rural census can certainly be successfully completed with high quality.

9432
CSO: 4007/449

RULES GOVERNING COMMUNE DEALINGS IN AGRICULTURAL PRODUCTS EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 5 May 82 p 41

[Article by People's Commune Enterprises Administration, Ministry of Agriculture: "May Commune and Brigade Enterprises Engage in Business and Processing Industries?"]

> [Editor's note: Recently some letters recevied from readers have focused on two problems about the scope of dealings by commune and brigade enterprises, People's Commune Enterprises Administration of the Ministry of Agriculture replies to which are printed below.]

[Text] Question: May the supply and marketing organizations of people's commune enterprises purchase and market commodities?

Answer: Commune and brigade enterprises are an integrated economy under rural people's commune collective ownership and include agriculture, industry, transportation, construction, and commerce. In 1980, their output value amounted to 12 percent of the national gross output value from industry and agriculture, making them a major integral part of the national economy. In order to serve commune member production and livelihood, in accordance with the spirit of the CCP Central Committee and State Council notice titled, "Need for Finding Multiple Ways of Opening and Developing Flow Channels," they have put into effect commodity flow channels of "multiple economic ingredients, diverse forms of operations, numerous channels, and few links." In rural villages, apart from mainstream supply and marketing cooperative mainstream channels, in recent years all jurisdictions have test run and developed, in a planned way, commune and brigade collective businesses such as trade warehouses, joint supply and marketing management departments, and integrated agricultural, industrial, and commercial enterprises, etc. to form another supplemental flow channel. The appearance of this flow channel has been a convenience for the masses, has enlivened the rural economy, and has advanced development of commodity production. Consequently, the "Summary of the Minutes of the National Conference on Rural Work," which was approved and forwarded by the CCP Central Committee in January 1982, both affirmed and required that commercial departments at all levels actively support and guide commune and brigade development of sales promotion and procurement activities as a major task for themselves. All levels of planning, public finance, material, and transportation departments should accommodate commune and brigade collective businesses, commune and brigade enterprises, and integrated agricultural, industrial, and commercial enterprises in setting up accounts. After rural businesses have put multiple channels into effect, local people's governments should strengthen leadership, prescribe the scope of their activities, and do a good job in coordination, channeling guidance, and management." In accordance with a series of Central Committee and State Council regulations, the scope of one category of commune and brigade commercial operations is procurement of the various raw materials and supplementary materials needed by commune and brigade industries. These include the following: agricultural products dealings outside state procurement base figures that communes and brigades may handle as they see fit; second is raw materials newly developed by commune and brigade enterprises; third is exchange and cooperation internally on raw and processed materials that commune and brigade enterprises produce; fourth is procurement of agricultural products remaining following fulfillment of state distribution and procurement quotas; and fifth is receipt of materials for processing from foreign traders and from outside the country. A second category is marketing operations including the following: one is marketing of goods produced by commune and brigade enterprises; second is organization for production of goods for use in the export trade; third is dealings in state owned industrial and commercial wholesale commodities; fourth is serving as a purchasing and sales agent on commission from state industries or businesses; fifth is helping communes, brigades and commune members sell agricultural products not purchased by the state. Development of all these operations must be done under guidance of state plan and with respect for national laws. There positively can be no disregard of state plan, jacking up of prices, or pre-emptive buying of commodities.

Question: Are commune and brigade enterprises permitted to deal in the processing of second and third category farm products?

Answer: Permitting communes and brigades to process farm products themselves has consistently been a policy of the state. As early as 1951 in "Decisions on Mutual Assistance and Cooperation in Agricultural Production," the CCP Central Committee proposed development by agricultural cooperatives of agricultural product processing industries. In September 1956 the "Directive on Strengthening of Production Leadership and Building the Organization of Agricultural Production Cooperatives" issued by the CCP Central Committee and the State Council pointed out the following: Agricultural sideline product processing industries should not be overly concentrated in cities. Overconcentration makes it impossible to satisfy peasant needs for livestock feeds and fertilizers and is, at the same time, a reason for the decline of rural sideline occupation production. Consequently, processing industries for the grinding of rice, the ginning of cotton, and the pressing of oil should not be overly concentrated in cities. Except for the supply of raw materials needed by existing processing plants, all other agricultural products should, insofar as possible, be processed by local villages and towns or by agricultural cooperatives." The "Decisions on Various Problems in Hastening Development of Agriculture" of the 11th Party Central Committee in 1979 also pointed out that "in accordance with the principle of economic cooperation, any farm products that lend themselves to rural processing should gradually come to be processed by commune and brigade enterprises." State Council Document No 170 issued in 1979 ruled a need to "make efforts to develop agricultural commodity processing industries." State Council Document No 77 of 1981 further stipulated that "henceforth whenever there is a surplus of processing capacity in state enterprises, communes and brigades are not to run any more similar enterprises or expand processing capacity. For all processing using agricultural sideline products as raw materials that can be done in rural villages, the state will not further build new plants in cities or expand processing capacity, but should act on the principle of economic cooperation to support development of collectively owned processing industries." The most recently published "Summary of the Minutes of the National Conference on Rural Work" approved and sent forward by the Central Committee also clearly pointed out that "provided planned state quotas are assured fulfillment, there should be active development of on-site processing concentration, and overall use of agricultural sideline products." "Except for agricultural product processing industries that rural communes and brigades want to continue to develop, either commercial units may themselves process purchased farm products, process them jointly with communes and brigades, or commission commune members to process them in their homes." In order to correctly handle concurrent concern for the welfare of the state and collectives, the "Minutes" noted that "the agricultural economy is a major integral part of the national economy, with the planned economy being paramount and market regulation being ancillary. For grain and edible oils, a policy of centralized procurement and centralized marketing should continue to be followed. For assigned procurement of second category agricultural products, equitable base figures should be set and maintained without change for several years. In the case of goods for which base figures cannot be readily set, equitable procurement and retention proportions should also be set. Portions not included in base figures may also be purchased by the state, or the state may purchase a proportional portion of some. In some cases all of them may be handled at the discretion of communes, brigades, and the peasants "for processing and marketing." With regard to commune and brigade enterprise dealings in second and third category agricultural commodities, State Council Document No 3 of 1981, "Directive on Strengthening of Marketing Management, and Cracking Down on Profiteering, Speculation, and Smuggling" clearly stated that "rural commune and brigade collectives, may traffic in goods from their own commune and brigade or from nearby communes and brigades that are surplus to fulfillment of state procurement quotas and the carrying out of negotiated procurement contracts, or are category 2 and 3 agricultural sideline products not purchased by the state. They are not allowed to traffic in category 1 agricultural sideline products."

9432
CSO: 4007/445

COMMENTATOR STRESSES DISTRIBUTION OF SUMMER EARNINGS

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinse No 6, 1982 pp 28, 42

[Article by commentator: "Give Attention to Distribution of Summer Earnings To Promote Production for the Year as a Whole"]

[Text] The job of distributing summer earnings has already begun in rural communes and brigades. Doing a good job of summer earnings distributions this year is a formidable responsibility of major significance.

Summer earnings distributions this year differ from previously, and this situation should be clearly realized. First of all, as a result of the practice of different forms of production responsibility systems, diverse ways of figuring compensation and manifold accounting methods have come into being. Contracts contain many different provisions, and rewards and penalties are of numerous kinds for a new situation. Assiduous honoring of all forms of agreements is a major task in this year's summer earnings distribution work: agreements are to be treated seriously and doing things perfunctorily is to be strictly guarded against. For example, production teams practicing production responsibility systems of specialized contracting, linking output to teams, individual households or individual workers must diligently act as agreements require, strengthen organizational leadership work and, in the course of harvesting and threshing, should guard against mix-ups at the threshing ground, mixing up production from different sources, mixing up accounts, or mixing up workers. The masses say, "accounts should be kept meticulously in accordance with agreements"; whatever agreements were stipulated at the outset should be lived up to with no saying one thing at the beginning of the year only to change it in the summer. This is a matter that bears on the credibility of responsibility systems and involves the personal interests of a myriad of commune member households that must be handled well so the masses will be satisfied. Communes and brigades practicing the fixing of output quotas on a household basis and peasant household assumption of full responsibility for task completion, and particularly those practicing the assumption of full responsibility by individual households, should inspect how well contracts are being fulfilled in distribution of summer earnings. They should take firmly in hand fulfillment of state purchase quotas, and they should clearly explain to everyone how withholdings are to be used. The masses speak well when they say, "Once accounts are closely figured, sharing is done as it should be; and when intended uses are clearly explained, withholdings are made as they should be." Commune members must be taught that when a bumper harvest has been reaped, the collective and the state are not to be forgotten, and that concurrent concern for the welfare of the state, the collective, and individuals should be regarded as a duty that each household of contracting commune members must carry out with no thinking of only one party or of only two parties, but rather the need for concurrent concern for the three.

In making summer earnings distributions, fiscal reorganization work should also be inspected to determine whether collective property that should have been inventoried and recorded has, in fact, been inventoried and recorded, whether credits and debts have been checked and put into effect, whether collective withholdings and depreciation expenses have been deducted, whether a fiscal system has been established, etc. These tasks should be regarded as major ingredients in the safeguarding of collective property and consolidation of the collective economy.

This year's summer earnings distribution work has yet another feature. Because during the time of fall sowing last year temperatures were low in the north and the south had much rain, which hurt quality of fall sowing and wheat seedling growth, plus damage caused by drought in some areas, the size of the summer harvest differs from one place to another, individual areas having bumper, ordinary, or lean harvests. This situation requires intensified unified planning with due consideration for all concerned and equitable arrangements. Bumper harvest areas have to carry forward the spirit of love for the country and love for the collective to make a greater contribution to the country and to the collective. Places having ordinary harvests should assure fulfillment of state quotas and proper collective withholdings should be made. Communes and brigades with lean harvests must provide for the livelihood of commune members first of all, and show concurrent concern for the welfare of the three after this has been done. It is also necessary to consider the customary living standards of commune members and proportionally watch summer grain with autumn grain. Places having a large ratio of summer grain production should, in addition to providing for commune members' livelihoods, do everything possible to better fulfill state purchase quotas.

Leaders at all levels, particularly county and commune leaders, must devote their energies to doing a good job of this year's summer earnings distribution work. They should particularly combine summer earnings distributions, inspection of how well Central Committee Document No 1 has been carried out, and the actual state of improvements in responsibility systems. All problems requiring solution should be solved and experiences should be summarized for steady progress. As a result of summer earnings distributions, the zeal of commune members will be encouraged and greater efforts devoted to production for the year as a whole to achieve a situation in which the summer provides impetus for the fall, for ceaseless and unremitting work to win a good harvest in agriculture for the year as a whole.

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NATIONAL

NEED FOR IMPROVED EFFECTIVENESS OF WATER PROJECTS STRESSED

Beijing NONGCUN GONGZOU TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 1982 p 16

[Article by Luo Zicheng [7482 1311 4453]: "Strive To Increase Water Conservancy Project Economic Benefits"]

[Text] Improvement of management to increase economic benefits from existing farmland water conservancy projects is one major aspect of improvement in benefits from the agricultural economy today.

Agricultural production is biological production, and it is inseparable from the restraints and influences of light, heat, water, soil, and climate. China frequently experiences drought and flood disasters. If water conservancy projects are effectively handled, not only do farmlands benefit with water, but drought and flooding can be resisted. During the past 3 years, the agricultural economy has burgeoned, and a determining factor has been the correctness of the line and policies that have followed from the Third Plenary Session of the 11th Party Central Committee, which have aroused the enthusiasm of hundreds of millions of peasants. In addition, this burgeoning is inseparable from the vigorous support given to agriculture by the state over a long period of time for the building of farmland water conservancy projects on a fairly large scale.

Now, in this period of national economic readjustment, the state is experiencing certain hardships in public funding and, for the moment, the peasants also lack the resources to build new large scale water conservancy projects. Better use of the role of existing water conservancy projects possesses major practical significance. Leadership departments concerned have put forward guiding programs centering on the strengthening of management and increasing benefits. We must pool our efforts and wisdom to manage existing water conservancy projects well, and to make better use of the benefits they provide to create further favorable conditions for steady increases in output.

For a long time water conservancy project management has been rather antiquated. This has been manifested in the following: production with calculation of costs, lack of standards pertaining to earnings and expenses, no fixing of responsibility for work, no concern about benefits from the work that is done, and egalitarian "eating out of a large common pot" no matter whether one works much or little, well or badly, or works or does not work. In many places projects have fallen into disrepair or have been damaged, and some project systems have not been equipped to form a coherent whole. Some management conditions are poor. There has been a general lack of sources for funds making difficult necessary maintenance and repairs. Grassroots units at many water conservancy projects have been hard pressed even to maintain simple reproduction. Consequently, strengthening of farmland water conservancy project management is an urgent and important task.

The nub of improved management is the building of various forms of economic responsibility systems. Results of experiences at pilot project units in various places in Sichuan Province have been very good. They instituted centralized management, individual unit (or individual segment) accounting, specialized contracting, and fixing of responsibility on individuals, linking remuneration to output and benefits provided. A change was made from the overcentralization of individual rights, water rights, and property rights to their transfer to a lower level. Once grassroots management units had the right of self-determination, management personnel, staff and worker, and commune member enthusiasm was aroused. Various production, economic, and technical norms were also fairly readily implemented for fulfillment and overfulfillment of production quotas, which increased enterprise earnings and expanded and increased project benefits. Many pilot project units made a change for the long standing losses of the past to self-sufficiency or substantial self-sufficiency for their own expenses, and some even showed a profit.

In the strengthening of water conservancy project management, attention should be given to all-around operations, the development of the raising of fish, generation of electricity, growing of cotton, raising of poultry, afforestation, and tourism in a change from the former way of doing things of "looking after dams and guarding reservoirs, releasing water and maintaining ditches." In order to make full use of local area and local unit natural resources, a change has to be made away from the former reliance on the state to provide expenses, or just collecting small water fees, to the broadening into diverse sources for funds. The form of operations is also to be managed solely by water conservation units in gradual development in integrated operations managed by project areas, irrigation areas, reservoir areas and surrounding communes and brigades. As a result of consultations, some places may jointly operate small hydropower stations, branch companies for aquatic products, and jointly operated forest enterprises, etc., on a basis of voluntary participation and mutual benefit. Such all-around joint operations cement relationships between project management units and the surrounding masses. They broaden financial resources, increase funds for repairs and maintenance, promote project safety, and improve project benfits. They are advantageous for the state, collectives, and the masses.

Today the effectiveness coefficient for water used in irrigation in China is about 0.4. For some wetlands the volume of water used for irrigation amounts to 1,500 cubic meters; for drylands it amounts to as much as 800 cubic meters, more than double the normal quotas. In many areas, large amounts of water are used in flood irrigation and irrigation by channeling water along furrows, causing abandonment or recession of water, which both seriously wastes water resources and causes soil salinization and alkalinization. Consequently use of water must adhere to sensible fixed quotas and the strengthening of scientific and technical guidance on use of water. Furthermore, some readjustment of overly low water prices has to be made, fees being collected per cubic meter, with graduated increases in rates for consumption in excess of quotas.

Strengthening of water conservancy project management to increase benefits also requires steady strengthening and improvement of project quality, increased capabilities for guarding against floods and draining waterlogging, and improved project standards to assure project safety, particularly the safety of dangerous dikes on dangerous reservoirs. For the small number of projects on which construction continues, quality must be guaranteed so that work on them will be promptly completed and they can go into production.

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FARMLAND WATER CONSERVANCY RESPONSIBILITY SYSTEM EXPLAINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 Jun 82 p 1

[Interview with Qian Zhengying [6929 29735391], minister of Water Conservancy and Power by ZHONGGUO NONGMIN BAO reporter: "Enhance Farmland Water Conservancy Responsibility Systems to Make Full Use of Existing Project Benefits; date and place not specified]

[Text] Following institution of agricultural production responsibility systems, how should farmland water conservancy work be changed to meet the needs of the developing situation? Recently a reporter from this newspaper called on Water Conservancy and Electric Power Minister Qian Zhengying to ask this question.

Question 1: How has it been possible to get fairly good harvests during the past several years despite the occurrence of serious natural disasters in many of the country's agricultural production areas?

Answer: The basic reason it has been possible to reap fairly good harvests despite the rather frequent incidence of droughts and floods in China during the past several years has been institution of agricultural production responsibility systems that have aroused the enthusiasm for production of the broad masses of the peasants. In addition, the large numbers of farmland water conservancy projects that have been constructed since the founding of the People's Republic have also played a major role in the fight against natural disasters.

In the 32 years since founding of the People's Republic, China has built more than 80,000 medium and small size reservoirs, more than 6 million small ponds, more than 2 million pump wells for agricultural use, and has developed more than 7 million horsepower of drainage and irrigation machinery. As a result, about 46 percent of cultivated land has irrigation facilities and 260 million mu of lowlying land has been brought under initial control. The building of these farmland water conservancy and farmland capital construction projects has provided a solid material foundation for increases in agricultural production. Last year drought in the six provinces of Hebei, Henan, Jiangsu, Anhui, Hubei, and Hunan covered a 150 million mu area; however, since these six provinces had substantial water conservancy facilities and put them to fair use, the disaster area was reduced to only 47 percent of the drought area, and total grain output increased by 18 billion jin over 1980. Meanwhile in Guizhou and Gansu provinces where water conservancy conditions are comparatively poor, the disaster area was more than 80 percent of the drought area resulting in a drop in output.

Of course, it is also necessary to realize, on the other hand, that benefits from existing farmland water conservancy facilities have not yet been realized to the full. In some places, because of consecutive years of drought with little rainfall, reservoir and pond water storage is in poor condition; the ground water table has dropped tremendously, and pump wells are unable to raise water. In other places the water storage situation is poor as a result of not having fully equipped facilities or poor management. Ways must be gradually found to conscientiously solve these problems.

Question 2: Following Institution of Agricultural Production responsiblity systems, what new problems did farmland water conservancy work encounter?

Answer: Since agricultural responsibility systems grew very quickly, in some places water conservancy was unable to catch up at once. In places practicing both the fixing of output quotas on a household basis and assigning full responsiblity for task completion on a household basis, in particular, some commune and brigade cadres threw up their hands and had nothing to do with farmland water conservancy work. As a result, in both project management and use of water for irrigation, some problems arose. Some projects fell into disrepair; little water was stored in reservoirs and ponds, water pumping equipment was poorly maintained or even stolen, sold, and privately divided, and the specialized water management corps was disbanded. In some places there were even instances in which [four characters illegible], ponds and reservoirs were abandoned and not used and destructive acts such as dynamiting and poisoning of fish perpetrated. Meanwhile water use and [one character illegible] use steadily increased. During periods of fight against drought there was competition for water and seizing control of water. In South China where there are ricefields that are irrigated and drained one after another, in particular, fights increased about "fields water traverses." The outbreak of the aforestated problems was due not to institution of agricultural production systems of responsibility but rather resulted from failure of our water conservancy work to keep up with the developing situation.

Question 3: In order to meet further the rural situation, where should the emphasis be placed now in farmland water conservancy work?

Answer: In view of the foregoing problems, farmland water conservancy systems of responsibility must be instituted to make full use of benefits from existing water conservancy projects.

With the approval and sending forward last year by the former State Agricultural Commission of the "Report on Nationwide Enhancement of Farmland Water Conservancy Work Responsibility Systems," almost 50 percent of farmland water conservancy projects throughout the country have instituted different forms of management responsibility systems. These include those in Shandong, Shanxi, Sizhuan, and Guizhou provinces where, because of serious attention on the part of leadership, the drawing of experiences gained at key points for promotion in all areas, and tailored guidance, progress has been relatively rapid. Facts have shown rather remarkable results from institution of farmland water conservancy responsibility systems as follows: First is fundamental solution to the problem of no one being in charge and impetus to water conservancy project repair and maintenance. Second is an intertwining of the responsibilities, rights, and benefits of management personnel, arousal of their enthusiasm not only for taking care of good use of project water but also for giving impetus to development of economic diversification for the realization of self-sufficiency in meeting project management expenses with some surplus. Third is increase in the in-operation rate of facilities, reduction in energy consumption, and a lowering of costs for lifting water. Fourth is institution of water conservancy building responsibility systems with the use of economic methods such as agreements systems, and contracting systems to institute plans and manage construction, increasing results obtained from use of water conservancy funds, hastening speed of project construction, and guaranteeing project quality.

Question 4: What is the form of farmland water conservancy responsibility systems currently in being?

Answer: In accordance with different circumstances, each jurisdiction has adapted general methods to local situations to adopt diverse forms of farmland water conservancy responsibility systems. In their form of management, mostly they are contract responsibility systems practicing the linking on the type of project, and differences in size and production team management systems, they have linked "responsibilities, rights, and priviliges" under the centralized leadership of communes and brigades and centering around "fixeds, contracts, and bonuses," with individualized practice of all around contracting, specialized contracting, contracting for individual tasks, and large scale assignment of responsibilities. In some places where irrigation districts cut across brigade lines, management of water use is done by centralized reporting to production teams on quantities of water used and times of use. Management units maintain an overall balance, send water to brigades, render payments above and collect fees from below, apportion water to teams and to households, and enforce payment of basic water fees and water fees based on calculation of quantities used, with increases in price for overuse. Water from small ponds is also under production team management for release with "the stroke of a hoe." Production teams centrally arrange the order in which people will receive water depending on their distance, and difficulties in providing water to them in a centralized allocation of water resources.

Those who have not yet established farmland water conservancy responsibility systems should take matters firmly in hand and build them with all possible speed. Those who have already established them should further perfect them.

Question 5: What new problems should be given attention in future farmland water conservancy construction?

Answer: As a result of 32 years of construction, China's farmland water conservancy endeavors have a definite foundation. For now and for a certain time in the future, the main task is strengthening of management to derive benefits. Emphasis should be placed on elimination of hazards and reinforcing projects, equipping them fully to tap potential, maintenance and replacement, as well as clearing away of sediment and preventing seepage, so that project benefits can be fully brought into play. In some places the foundation for water conservancy is weak, and if the problem of irrigating as yet unirrigated places in drought areas, and the problem of drinking water for people and livestock is to be solved, a certain about of new construction of medium and small projects will have to be done; however, action should be taken only within capabilities, with efficiency being the goal.

There are two situations in farmland water conservancy construction today that should arouse concern. One is that following practice of production responsibility systems, in order to improve production conditions, increase output and increase earnings, peasants have been very enthusiastic about the building of small farmland water conservancy projects. Communes and brigades have collectively invested funds, and groups of households have pooled funds in a spontaneous building of water conservancy projects, one after another. However, because organizational leadership and technical direction has not kept apace and because of a lack of necessary rules and regulations, projects have not been equitably distributed and quality of construction has been poor, which will mean a future waste of manpower, material and financial resources. Secondly, in some places commune and brigade cadres have thrown up their hands and have not cared, as a result, farmland water conservancy construction has stagnated. Not only have new projects that should have been built not increased, but because of lack of needed repairs, reinforcement, and replacement of equipment at existing water conservancy projects, it has been impossible to maintain even simple reproduction, resulting in needless losses for agricultural production. These two situations require close attention and solution.

In his government work report to the Fourth Session of the Fifth National People's Congress, Premier Zhao Ziyang noted that "It is necessary to make equitable use of the investment of labor of several hundred million peasants to carry out capital construction such as farmland water conservancy." Now, in the process of improving and consolidating agricultural production responsibility systems, many places have factored in workdays required for farmland water conservancy construction. Some areas have also made rules and regulations requiring workforces in every rural village to do a certain accumulated amount of required labor each year on farmland water conservancy capital construction. Politically, emphasis has been on continued adherence to the principles of those who benefit are to be responsible, and of voluntary participation and mutual benefit for exchanges at equal value and payment of compensation according to labor done, the greater the work the greater the gain. These methods are very good. I believe that with conscientious implementation of the programs and policies that have followed from the Third Plenary Session of the 11th Party Central Committee, steady elimination of the effects of leftist ideology, strengthening of leadership, reliance on the masses, and doing a solid job, farmland water conservancy construction will inevitably see further development, and will play a greater role in agricultural production.

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EXTENSIVE FRESHWATER FISH BREEDING URGED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 1982 pp 20-21

[Article by commentator: "Strive by Every Available Means for Great Growth in the Fishing Industry"]

[Text] Since Liberation, China's aquatic product enterprises have seen definite development, and numerous typical instances of high yields have occurred. Nevertheless, in an overall sense, the fishing industry's output remains very low and there is always a shortage of fish supplies in markets. As a result of excessive and indiscriminate fishing, within a short period of time fishing industry resources have been seriously damaged, so that now catches must be controlled so that resources can rest and recuperate. Therefore, the trend of development in the fishing industry must inevitably be away from sole reliance on catches of natural resources to artificial freshwater and marine breeding. This is not only an effective way of increasing supplies of aquatic products now, but is also the long range, strategic method and direction for China's development of aquatic product enterprises.

Development of a freshwater breeding industry holds greater economic benefits than development of the livestock industry. The number of fish that can be raised in a cubic volume of water is much greater than the number of livestock that an equivalent amount of land will support. Fish are cold blooded animals whose energy consumption and feed requirements are less than for livestock or poultry, and the edible portions of which and the amount of protein provided from an equal quantity of feed is higher than from livestock animals or poultry. In addition, they help maintain the ecological environment, improve the structure of agriculture, and develop the rural economy in an all-around way so that the broad masses of peasants may prosper with all possible speed.

Ours is a vast land with widespread areas of water whose geographical position is temperate, favoring growth of fish. Traditional experience exists for the raising of freshwater fish, and the broad masses of people and scientists and technicians have created new techniques. China has bountiful resources and tremendous potential for development of a freshwater fishing industry. However, China has scant accumulated wealth, and its financial and material resources are limited. The work foundation for aquatic product departments themselves is also fairly poor. If the freshwater fishing industry is to be improved with all possible speed, the emphasis now should be toward doing the following five jobs.

1. Further Improvement of Understanding and Genuine Strengthening of Leadership. CCP committees and government at all levels, county level party and government leadership organizations in particular, must establish a greater agriculture concept with all-around implementation of a program of simultaneous development of farming, forestry, animal husbandry, sideline occupations, and fisheries, the same heavy emphasis given grain farming being devoted to the restructuring and use of water surfaces. The fishing industry has to be really placed on important daily agendas and forceful cadres made responsible for this work, attention being devoted to it several times each year for effective solution to genuine problems in production. While readjusting structures, all jurisdictions should establish and perfect the structure of the fishing industry, and assign a certain number of aquatic products cadres and technicians to it. Materials required by the freshwater fishing industry should be made a part of the plan for all-around arrangements to assure supplies.

2. Adherence To a Program For the Near Term of Development of the Freshwater Fishing Industry. Development of a freshwater fishing industry requires mobilization of forces in all areas and fullest use of all kinds of water surfaces in a combined program of breeding, multiplication, raising, and catching in which breeding is the key. Full use should be made of the leadership and exemplary role of state owned fishing industries. Emphasis should be on development of commune and brigade fishing industries, and commune member households and entreprenurial units should be encouraged to raise fish to produce a situation as rapidly as possible of joint efforts by the state, collectives, and individuals. Continued strong attention should be given the building of commodity fish bases to provide city and countryside with larger quantities of live, fresh fish. Cities themselves should develop suburban raising of fish in the same way that they took in hand production of fresh vegetables. Ponds, small lakes, and reservoirs have extensive water surfaces suitable for intensive raising of high yields. This will be the focus of development in the near term; however, one should not overlook use of the water surfaces that large lakes and large reservoirs provide. For large and medium size water surfaces, most important at the moment is diligent attention fo fully equipping the fishing industry, strengthening of management, multiplying resources, and sensible catches. Emphasis should be given the equitable use of water surfaces, general methods being adapted to specific bodies of water for development of diverse aquatic animals and plants.

3. Diligent Carrying Out of Various Fishing Industry Policies. Policies pertaining to water surfaces should be put into effect, and water surface use rights made clear and consolidated. The overall principle must be that whoever owns the water surface operates it. Also possible is the organization on the basis of voluntary participation and mutual benefit of various forms of joint ventures. No further changes should be made for water surfaces whose

use has been made definite. Water surfaces that straddle boundaries about which there are disputes should be resolved through consultations by all parties concerned in meetings convened by appropriate high leadership organizations. Lakes and streams belonging to the state that have not yet been put to use should, insofar as possible, be operated by communes and brigades. Odd fragments of water surfaces not readily amenable to collective operation may be designated for individual commune member operations. Once use rights have been decided on, no change is to be made for a long period of time and they are to be protected by the law.

Aquatic product procurement and marketing policies are to be put into effect. In order to enliven the economy and make markets boom, state fish farms, specialized communes and brigades and reservoir, and state farm and land reclamation unit fishing industry protection units must assure fulfillment of state assigned procurement quotas as regards both quality and quantity. Products in excess of assigned quotas may be disposed of by producing units as they see fit. The state has no assigned procurement quotas for fish raised by communes not specializing in the raising of fish or by commune member households, and such fish may be freely sold. In seting procurement and marketing policies, all jurisdictions must consider both what benefits fishing industry production, and assure urban residents a certain quantity of fish at parity price.

Putting into effect policies for fish feed supplies. Feeds needed by state fish farms, reservoirs, specialized fishing industry communes and brigades for the raising of fingerlings, and parent fish, and for raising of fish in net cages, and in warm running water, should be made a part of plan to be provided in accordance with pertinent State Council regulations, and quotas should be promptly readjusted in accordance with actual needs as production develops. Feeds needed for the raising of fish by rural communes and production brigades may be centrally withheld from feed grains or a certain amount of land may be designated for the raising of feed. Breeding of fish to meet state assigned quotas should be recompensed with supplies of feed grain, the level doing the procurement and dispatching the fish to the state receiving the grain.

Policies pertaining to protection of waterlands and aquatic product resources are to be put into effect. Protection of waterlands requires no enclosing of lakes, filling in of ponds or enclosing reservoirs to make farmland, and those that have been enclosed to reclaim land without compensation must be returned in a planned way to fishing. Industrial plants and mining enterprises are to be required to discharge waste water in accordance with environmental protection laws and fishing industry water quality standards. All who pollute fishing industry waters causing losses will have to pay compensation according to law, and the responsibility of leaders will be fixed. Funds required to build water conservancy projects and to construct necessary facilities to help succor fish should be made a part of plan for overall arrangements. When units concerned take over fishing industry grounds for capital construction or other needs, they must obtain permission and pay compensation in the same way as when requisitioning land. Resolute action must be taken to halt poaching, over fishing, poisoning of fish, and dynamiting of fish. All levels of party and government leadership organizations are to intensify ideological and political work so that fishing area cadres and the masses will have an enhanced conception of the law and will consciously struggle against the unhealthy trends and evil practices that cause damage to fishing industry production. Water police sub-stations are to be put back in operation on all large rivers, lakes, and reservoirs, and some state fishery farms may establish fishing industry police. Illegal conduct that seriously damages aquatic product resources and fishing industry production public procurator departments are to strictly handle according to the severity of offenses.

Fishing industry production responsibility system policies are to be carried out. Both state and collective fishing industry production units are to institute various forms of production responsibility systems in accordance with freshwater breeding characteristics, production conditions mass awareness, and levels of management. Where they have been established, so long as they benefit production and the masses are satisfied, they should be gradually perfected while being consolidated. Where they have not been established, a good job should be done to help gradual implementation.

4. Strict Attention To the Building of Key Projects. Development of a freshwater fishing industry requires that some capital construction be done. All jurisdictions may size up their own situation and devote attention to construction of key projects. A first requirement is continued serious attention to the building of commodity fish bases. Not only should the state, each province, municipality, and autonomous region with conditions operate them, but cities too should build their own commodity fish bases. State owned lake and reservoir fish breeding farms should emphasize full installation of equipment to increase production capacity. Collective fish raising pond and weir restructuring is to be included in farmland capital construction plans for each jurisdiction for overall arrangements. Mostly such restructuring will rely on commune and brigade resources for implementation. Second, attention should be given to building of fry and fingerling production. All jurisdictions should begin with strengthening of planning and management for fry and fingerling production at the county level using centralized planning and equitable distribution to maintain balanced planning for fry and fingerling production. Fine variety bases should be built to fully tap existing state owned fish farm and commune and brigade fish farm fry and fingerling production potential. Net cage breeding, ricefield breeding, and raising of adult fish and fingerlings in the same ponds should be encouraged.

5. Spread of Freshwater Fishing Industry Scientific and Technical Knowledge. For the freshwater fishing industry to advance, it has to take the road of scientific fish breeding. All jurisdictions are to do a good job of surveying and zoning fish resources, make the most of local advantages, and make rational selection of both water surfaces and varieties to be bred. The main targets for study should be problems requiring little effort to solve. Forces should be organized and the indigenous and foreign combined for a concerted attack to solve problems as quickly as possible so that China's traditional fish breeding techniques will be steadily improved, the better

to serve production. Counties and communes having a fairly large number of water surfaces should gradually build aquatic products technical promotion organizations, establish specialties and fishing industry technicians who are exempt or semi-exempt from production. They should also bring into play the role of "native experts." At the same time they should use various methods for popularizing freshwater fishing industry scientific and technical knowledge.

CCP Central Committee leadership comrades are extremely solicitous about development of the freshwater fishing industry and have set a target for struggle of trying to attain an output of 4 million to 5 million tons of freshwater fish by the end of the 1980's. Much arduous work will be required to realize this magnificent goal. All that is needed is serious attention by the party as a whole, arousal of the masses, reliance on policies and secondly on science, and solid efforts and great development of the country's freshwater fishing industry production is a certainty.

9432
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REGULATIONS GOVERNING QUARANTINE INSPECTION OF IMPORT, EXPORT ANIMALS, PLANTS

Beijing RENMIN RIBAO in Chinese 23 Jun 82 p 4

[Beijing XINHUA 22 June 82: "Recently the State Council has Issued "The People's Republic of China Regulations on Quarantine Inspection of Import and Export Animals and Plants," the entire text is as follows]

[Text] Section 1. General Provision

Article 1. These regulations are issued to tighten quarantine inspection of import and export animals and plants in order to protect the agricultural, forestry, animal husbandry, and fishery production of our country and the health of our people; to maintain our creditable reputation in foreign trade; to meet our international commitments; and to prevent the importation and exportation of diseases, pests, weeds, and other organisms harmful to animals and plants.

Article 2. The quarantine inspections provided in these regulations shall apply to all commercial and noncommercial animals, plants, animal and plant products, and the means of transporting same to enter, leave, or transit the People's Republic of China. The particulars are as follows:

(1) Animals: including domestic animals, domestic fowls, wild animals, bees, fish, silkworms, etc.

(2) Animal Products: including rawhides and pelts, furs, meats, internal organs, fats, blood, eggs, sperm, bones, hoofs, horns, etc.

(3) Plants: including cultivated plants, wild plants and their seeds, saplings, breeding materials, etc.

(4) Plant Products: including grains, beans, cotton, oil, hemp, tobacco, kernels, dry fruits, fresh fruits, vegetables, raw medicinal materials, logs, fodders, etc.

(5) Vehicles, vessels, and aircrafts used transporting animals, plants, animal and plant products as well as packaging, bedding and lining materials, and feeding utensils, etc.

Quarantine inspection shall also apply to other commodities and the means of transporting them which could carry quarantine objects.

Article 3. Infectious animal diseases and parasites, harmful plant diseases and pests, weeds, and other harmful organisms (generally known as diseases and pests) are classified as quarantine objects, and diseases and pests subject to inspection.

(1) Quarantine objects are diseases and pests barred from entering the country. A list of quarantine objects shall be published by the Ministry of Agriculture, Animal Husbandry and Fishery.

(2) Diseases and pests subject to inspection are those diseases and pests required to be inspected by agreements, accords, or commercial contracts with foreign countries, or upon application by any export unit for quarantine inspection.

Article 4. Animal and plant quarantine inspection offices or stations (generally known as port animal and plant quarantine inspection authority) established by the People's Republic of China at its ports, airports, land and river border ports open to international traffic, and in related provincial capitals and the capitals of the autonomous regions shall represent the state to perform quarantine inspection on import and export animals and plants.

Article 5. All import and export animals, plants, animal and plant products, and their means of transport must have quarantine inspection clearance before they shall be permitted to enter or leave the country.

Section 2. Import Quarantine Inspection

Article 6. Prior approval of the Ministry of Agriculture, Animal Husbandry and Fishery shall be required for the importation of animals and animal products. Prior approval of the Ministry of Forestry shall be required for the importation of wild animals and their products.

To import seeds, saplings or breeding materials, the importing department, if it is an agency of the State Council, shall file a "Quarantine Inspection Form for Import Seeds and Saplings" with the Ministry of Agriculture, Animal Husbandry and Fisher or the Ministry of Forestry for approval; or if the importing department is an agency in an appropriate province, autonomous region and municipality it shall file for approval in the deparment (bureau) of agriculture (forestry, reclamation) of that province, autonomous region and municipality.

Article 7. Commercial contracts or agreements of technical cooperation, gift, exchange or aid which cover the importation of animals, plants or animal and plant products shall specify the quarantine inspection requirement of the state, or the quarantine inspection agreement reached between the governments concerned, and the requirement of quarantine inspection certificates issued by the appropriate authorities of the exporting countries.

Article 8. Import animals, plants, and animal and plant products shall be subject to quarantine inspection by the port animal and plant quarantine inspection authority.

(1) Before or upon the arrival of the commodity at the port of entry, the consignee unit or its agent shall file an application for quarantine inspection (or bill of lading) and the quarantine inspection certificate issued by the exporting country with the port animal and plant quarantine inspection authority to ask for inspection.

(2) The quarantine inspection of an incoming train or automobile shall be performed on board the vehicle by the port animal and plant quarantine inspection authority in conjunction with the joint inspection, or on board an incoming vessel after the joint inspection, or on the spot where cargo is unloaded from an incoming aircraft.

Article 9. If neither quarantine objects nor diseases and pests subject to inspection are detected during the inspection, the imported animals, plants, or animal and plant products in question shall be permitted to enter the country after receiving a "quarantine clearance notice" or a "quarantine clearance chop" stamped on the bill of lading.

Article 10. If import animals or animal products are found to contain quarantine objects or diseases and pests subject to inspection, the applicant for inspection shall be issued, appropriate to the situation, a "quarantine treatment notice" to inform him of the different measures to be taken:

(1) The animal with a serious infectious disease and the whole shipment thereof shall be returned, or slaughtered and destroyed.

(2) The animals with a common infectious disease shall be returned or slaughtered and destroyed; and the whole shipment thereof shall be kept at an animal quarantine center or any designated insulation area for observation.

(3) The animal with an infectious disease shall be given medical treatment.

(4) The contaminated animal product shall be sterilized, returned, or destroyed.

Once the animals quarantined for observation in accordance with (2) and those given medical treatment in accordance with (3) are found free of diseases, and once the animal products sterilized in accordance with (4) are cleared of contamination, they shall be permitted to enter the country.

Article 11. If import plants or plant products are found upon quarantine inspection to contain quarantine objects or diseases and pests, the applicant for inspection shall be issued a "quarantine treatment notice" to inform him to fumigate, sterilize, restrict the use of, return or destroy the imports in question. After decontamination by fumigation and sterilization, the imports shall be permitted to enter the country once they are cleared by inspection.

Article 12. The quarantine inspection and treatment of import animals, plants, or animal and plant products shall be performed at the port of entry.

If, due to lack of facilities at the port of entry or for any other reason, the treatment should be performed at a designated locality inland, the approval of the Ministry of Agriculture, Animal Husbandry and Fishery shall be required. To prevent possible spread of the infections, the shipment, loading and unloading thereof shall be strictly monitored, and the local quarantine inspection authorities shall be asked to supervise the operations.

Article 13. The sites, warehouses, means of transportation, bedding and lining materials, and feeding utensils contaminated by the quarantine objects or diseases and pests subject to inspection shall be treated by the applicant for inspection or the consignee in accordance with the requests specified by the port quarantine inspection authority.

Article 14. The port animal and plant quarantine inspection authority may, in accordance with the conditions, issue quarantine inspection certificates to imported animals, plants, and animal and plant products which are found upon quarantine inspection to contain quarantine objects or diseases and pests subject to inspection.

Article 15. The importation of the following items shall be barred:

(1) Pests harmful to health, animal and plant pathogenic microorganisms (including starters, toxins and bioproducts), and other harmful organisms.

(2) Animals, seeds, saplings, breeding materials, and easily infected animal and plant products from any country or region affected by serious epidemics.

(3) Soil.

The Ministry of Agriculture, Animal Husbandry and Fishery shall issue a list of the items barred from importation by the aforesaid provisions. In case the importation of any items thereof is required for scientific research, the importing unit shall file an application with the Ministry of Agriculture, Animal Husbandry and Fishery for special permission to import them.

Section 3. Export Quarantine Inspection

Article 16. To export animals, plants, plant products, and noncommercial animal products for which quarantine inspection is required, the exporting unit or its agent shall file an application for inspection and the quarantine inspection certificates issued by their place of origin with the port animal and plant quarantine inspection authority for inspection. Those cleared upon inspection shall be issued quarantine inspection certificates and released. The export quarantine inspection of commercial animal products shall be performed by the import and export commodity inspection authority.

Article 17. Export animals, plants, and animal and plant products which are found upon quarantine inspection to contain diseases and pests subject to inspection shall be barred from export, or permitted to export after decontamination treatment.

Article 18. The contamination sites, warehouses, means of transport, bedding and lining materials, and feeding utensils shall be treated in accordance with the provisions of Article 13 of these regulations.

Section 4. Quarantine Inspection of Passenger-carried Items

Article 19. The quarantine inspection of animals, plants, and animal and plant products carried or shipped by incoming passengers or by transport staff and workers shall be performed at the port of entry. If no quarantine objects are detected upon inspection, they shall be cleared and released. If quarantine objects are detected, they shall be barred from entry, or cleared and released after sterilization. If results of quarantine inspection are not readily available on the spot, they shall be impounded for inspection, and the owner shall be notified of the findings and treatment.

Article 20. Raw meats carried out shipped by incoming passengers or by transport staff and workers shall be given antiepidemic treatment before clearance for entry.

Article 21. Animals, plants, and animal and plant products carried or shipped by outgoing passengers or by transport staff and workers shall be given necessary quarantine inspection and issued quarantine inspection certificates.

Section 5. Quarantine Inspection of International Postal Parcels

Article 22. Plants and plant products entering the country by mail shall be inspected by the port animal and plant quarantine inspection authority, and a postal quarantine clearance chop shall be stamped on the inspected postal parcel and released. If quarantine objects are detected, the postal parcel, after receiving quarantine treatment, shall be issued a "quarantine treatment notice" and turned over to the post office for delivery to the addressee. In case quarantine treatment cannot be performed, the postal parcel shall be labelled rejected and turned over to the post office for return to the sender. If the postal parcel should be destroyed, a "quarantine treatment notice" shall be issued for the post office to forward to the sender.

Raw animal products shall not be permitted to enter the country by mail (except small amounts of samples).

Article 23. Plants, and animal and plant products leaving the country by postal parcels shall be given necessary quarantine inspection and issued certificates.

Article 24. Pests harmful to health, animal and plant pathogenic microorganisms (including starters, toxins and bioproducts), other harmful organisms, and the natural enemies of diseases and pests sent into the country by mail shall be covered by permits issued by the Ministry of Agriculture, Animal Husbandry and Fishery.

Section 6. Transit Quarantine Inspection

Article 25. The shipping attendant or carrier of animals, plants, and animal and plant products in transit shall file an inspection application form (or bill of lading), and the quarantine inspection certificates issued by the exporting country with the animal and plant quarantine inspection authority at the port of entry for quarantine inspection. No further quarantine inspection shall be required at the port of departure.

Article 26. If plants, animal and plant products shipped in transit by train, automobile, or aircraft change train, automobile or aircraft in a port within our territory, the exterior of the packages shall be inspected during the change. If they transit in the original vehicle or aircraft, the exterior of the vehicle or aircraft shall be inspected. If no quarantine objects are detected upon inspection, a "quarantine clearance notice" shall be issued or a quarantine inspection release chop shall be stamped on the bill of lading to allow the shipment to pass through. If quarantine objects are detected, the whole shipment shall be turned back. The contaminated sites and tools used shall be treated in accordance with the provisions of Article 13 of these regulations.

Article 27. Animals shipped in transit shall be permitted to pass through if they are found upon quarantine inspection to be free of quarantine objects. The whole shipment shall be turned back if they are affected with quarantine objects. The sites and tools thus contaminated shall be treated in accordance with the provisions of Article 13 of these regulations. During transit, animal fodder, excrement, bedding straw, dirt, and carcasses shall be disposed of at designated localities, not to be abandoned at will.

If quarantine objects are detected in the fodder for the animals in transit, the shipping attendant shall be notified to change it and sterilize the contaminated fodder on the spot.

Section 7. Penalities

Article 28. Commensurable penalties, including criticial instructions, disciplinary action or fines shall be given when provisions of these regulations are violated. Serious violations shall be dealt with by the judicial authorities in accordance with the law.

Section 8. Supplementary Provisions

Article 29. When a port animal and plant quarantine inspection authority performs its duties at a port, airport, railroad station, post office, or warehouse, the particular units concerned shall render all necessary assistance.

When quarantine inspection is performed on the spot, the applicant concerned shall be present to handle the moving, unpacking and repacking work.

A port animal and plant quarantine inspection authority shall issue receipts for any samples it selects for tests.

Article 30. When a department concludes with a foreign country any agreement, accord, or commercial contract which provides for quarantine inspections, it shall immediately notify the port animal and plant quarantine inspections, it shall immediately notify the port animal and plant quarantine inspection authority concerned.

Article 31. All port animal and plant quarantine inspection personnel shall wear quarantine uniforms and badges while performing quarantine inspections.

Article 32. A port animal and plant quarantine inspection authority may charge fees for performing quarantine inspections, and the specific measures therefor shall be prescribed by the Ministry of Agriculture, Animal Husbandry and Fishery.

Article 33. The rules for carrying out these regulations shall be laid down jointly by the Ministry of Agriculture, Animal Husbandry and Fishery and the Ministry of Forestry.

Article 34. These regulations shall take effect on the day of promulgation.

5360
CSO: 4007/458

NEW PESTICIDE DEVELOPED TO CONTROL APHIDS

Beijing RENMIN RIBAO in Chinese 11 May 82 p 1

[Article by the Office of Biological Prevention and Control of the Chinese Academy of Agricultural Sciences: "A New Agricultural Chemical for Biological Prevention and Control--Aphidicide"]

[Text] Aphidicide is the first new antibiotic pesticide for agricultural use developed and manufactured by our country on its own. Over the past 4 years, tests and demonstrations conducted on over 50,000 mu in 14 provinces, municipalities, and autonomous regions throughout the country have shown that aphidicide is effective in preventing and controlling orange rust tick, bloated red spider, apple red spider, cotton, aphid, and radish aphid. This new agricultural chemical has two main characteristics: it only kills the harmful insects and does not harm their natural enemies--the ladybug and the grass sandfly; its application density is low (6-15 parts per million), its residual period is short (72 hours), and it is not harmful to people or animals.

There are marked benefits from using aphidicide on economic crops. If used on oranges, its cost per mu is 15 to 30 percent lower than that of commonly used chemical pesticides, the ratio of insects to fruit is lowered by 15 percent, and the per mu income is increased by 42 yuan.

This biological achievement was tested and researched by the Microbiology Institute of the Zhejiang Provincial Academy of Agricultural Sciences. It was approved by the 1982 national aphidicide appraisal conference. This year it will be popularized and applied in eight provinces (autonomous regions), viz, Guangdong, Jiangxi, Ningxia, Anhui, Jiangsu, Shandong, Liaoning, and Zhejiang. In order to further meet the demand for its popularization and application, the Petrochemical Industry Bureau of Zhejiang Province has brought this new agricultural chemical into line with the 1982 state production plan by making the Tonglu and Tongxiang agricultural chemical plants responsible for its production.

9727
CSO: 4007/417

NATIONWIDE CONTROL OF COTTON FUSARIUM, VERTICILLIUM WILT PLANNED

Beijing ZHONGGUO NONGMIN BAO in Chinese 3 Jun 82 p 1

[Article: "Control of Fusarium Wilt and Verticillium Wilt of Cotton With All Possible Speed Is Requirements of National Cotton Quarantine Techniques Conference"]

[Text] In order to control with all possible speed the spread of fusarium wilt and verticillium wilt in the nation's cotton, the Agriculture, Animal Husbandry and Fishing Industry Ministry recently convened at Taian in Shandong Province a "National Conference on Cotton Fusarium and Verticillium Wilt Quarantine Techniques," which set June to September this year as the time for a national survey of fusarium and verticillium wilt in cotton.

Cotton fusarium and verticillium wilt first appeared in the United States, and was brought into China with the introduction from the United States of Stoneville cotton in the 1930's. They are two destructive diseases for cotton production. Once cotton contracts these two diseases, yields drop by a general 20 to 30 percent, by more than 60 percent in serious cases, or abort entirely. China's cotton production has developed fairly rapidly in recent years, the area planted steadily increasing. However, because some cotton growing areas viewed as important only increased cotton output to the neglect of fusarium and verticillium wilt quarantine prevention and control work, the area of incidence of these two diseases has steadily spread. The area stricken with these two diseases amounts to 20 percent of the total, and annually about 2 million dan of ginned cotton are lost. This February the State Council issued a notice requiring all cotton growing areas to take immediate action to bring these two diseases under control within 2 to 3 years in order to assure healthy development of China's cotton production. The present conference exchanged experiences about implementation of the spirit of the State Council notice in the prevention and control of cotton fusarium and verticillium wilt. It heard the views of experts, listened to specialized reports, and discussed formulation this year of specific methods and technical standards for a national survey of cotton fusarium and verticillium wilt. The conference asked that departments concerned in all cotton growing areas strengthen leadership and cooperate with local plant quarantine departments in carrying out this survey, and take effective action to control the continued spread of cotton fusarium and verticillium wilt. Delegates from 381 key cotton producing counties in 18 of the nation's provinces, municipalities, and autonomous regions attended this conference.

9432
CSO: 4007/438

BRIEFS

SUMMER GRAIN PROCUREMENT--By 28 June, Taihe County, Anhui Province had put 62.06 million jin of summer grain into the state granary, overfulfilling the original grain procurement quota. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 2 Jul 82 OW]

SHUCHENG COUNTY RICE DISEASE--Anhui's Shucheng County has drawn up a plan for protecting its early crop from a disease called sheath and culm blight of rice. The plan calls for spraying 120,000 mu of affected early rice with insecticide. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

XIAOXIAN COUNTY COTTON DISEASE--Commune members in Xiaoxian County, Anhui, are actively engaged in combating cotton bollworms. By 22 June, prevention work had been carried out on the county's 240,000 mu of cotton. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

DANGTU COUNTY COTTON PRODUCTION--Cadres and commune members in Anhui's Dangtu County are stepping up cotton field management in order to ensure a bumper harvest this year. As a result, the county's 114,000 mu of cotton are growing well. [OW271137 Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

CSO: 4007/490

EDITORIAL RALLIES NORTH CHINA TO RENEWED FARMING EFFORTS

Beijing ZHONGGUO NONGMIN BAO in Chinese 30 May 82 p 1

[Editorial: "Rouse Enthusiasm, Do Overall Planning and Wage the Battle of Planting, Harvesting, and Providing Field Care"]

[Text] This year spring drought is severe in North China; however, because all jurisdictions have made great efforts to combat drought to assure a wheat harvest and to assure spring planting, in most areas of the country the summer grain situation will be better than had been formerly predicted. Spring planting quotas have been virtually completed according to plan, and quality of sowing has been generally pretty good. Now "grain fills" [around 21 May] has passed and in the basin of the Chang Jiang and the Huai, as well as in the middle and lower reaches of the Huang He, the busy season of the "three summer jobs" [planting, harvesting, and providing field care] is advancing. This requires the harvesting of several hundred million mu of wheat as well as the planting of several hundred million mu of summer crops, plus caring for several hundred million mu of spring sown grain, cotton, and oil-bearing crops. Effectiveness in the "three summer jobs" production is a crucial battle for winning a bumper harvest in agriculture for the year as a whole.

This year the "three summer jobs" production differs from former years. First of all, in wheat production there has been more practice this year than last of responsibility systems linking remuneration to output, and harvesting and threshing is fairly dispersed. Second, combatting drought to do summer planting is a big job. The drought affected area of North China now stands at close to 200 million mu, and some of the land that cannot be planted in spring will have to be switched at once to summer planting. Third, the cottonfield area has increased in Hebei, Shandong, and Henan provinces, and wheat harvest time is also a crucial time for cottonfield care, so conflicting demands on labor for summer harvesting and summer field care will be even more pronounced. Fourth is insufficient energy with a shortage of petroleum and electricity. The aforestated new situation has intensified difficulties with production quotas for the "three summer jobs," and this requires that leaders at all levels rouse enthusiasm, do overall planning, and make the most of advantageous conditions to overcome disadvantageous factors in an effort to wage this "three summer jobs" war well.

Because of the increased amount of hot dry weather during the last 10 days of May, wheat harvest time is expected to come earlier, and the wheat harvest is a priority task. All jurisdictions must make ready their threshing floors and further implement and perfect farm machine management responsibility systems to make the most of the role of farm machines. They are to adapt general methods to specific situations, give tailored guidance, do an effective job of organizing for the wheat harvest, organize cadres, technicians, and old peasants to make a field by field appraisal of the wheat and to set up a time sequence for harvesting, each field being harvested when it is ripe, every grain being harvested and every grain being threshed. In the case of brigades practicing both the fixing of output quotas on a household basis and assumption of full responsibility for task completion, production teams should strengthen leadership and conscientiously organize cooperation among households, the exchange of labor, and making arrangements for threshing grounds and threshing to assure that the myriad households can harvest and thresh wheat promptly. They should assiduously work to prevent molding and rotting in rainy overcast weather, and to prevent fire. They should act to insure priority for the harvesting of fine wheat and strictly prohibit robbers from cheating the collective out of its wheat. Effective work should be done in the selection and holding back of seeds, holding back enough seeds for fall planting. Seed units should actively organize purchase and supply work.

In spring it is the days that count, and in summer it is the hours. While working on the wheat harvest, the opportune time for summer sowing cannot be lost. Effort must be put into early sowing and sowing well. Sufficient grain crops and economic crops have to be grown in accordance with state plan. The grain sowing area must be maintained stable with no reductions. Intercropping of corn in wheatfields is an effective method in North China for making full use of climatic and soil resources, for accentuating strengths and downplaying weaknesses, for moderating the conflict over labor, and for increasing output and earnings. General methods have to be adopted to specific situations, and every effort made to expand the intercropped area. In the basins of the Huang He and the Huai He, summer sowing of soybeans offers numerous advantages, and the growing of some soybeans over a certain area may be suitably revived. In seriously drought stricken areas of North China, some planting of summer sweet potatoes can be done. In drought stricken areas, combat against drought should continue in order to assure summer sowing, with efforts made to plant early, a day being a day and another mu planted being another mu.

Though most areas have done their spring planting pretty much on time this year, and though quality is also good; still, during the seedling growth stage the drought in some places has resulted in missed seedlings and black spots in furrows. Suitable arrangements should be made about workforces and time for serious attention to inspecting the seedlings, adding seedlings, thinning seedlings, singling seedlings, and combating drought to protect the seedlings for a good job of field care of the spring sown crops. Weak seedlings and third grade seedlings should be promptly cultivated, watered and fertilized so that they will move up in grade. Good prevention and control of diseases and insect pests should be done, and preparations should be made organizationally and materially to combat drought and guard against waterlogging.

The "three summer jobs" are big ones and time is short. Leaders at all levels are to go down into the frontlines of production to unearth problems and promptly solve them. All trades and industries should energetically support the "three summer jobs," and do a good job of transporting and supplying farm implements, petroleum fuel, electricity, chemical fertilizers, and agricultural pesticides. They should also do a good job of preparing for summer distributions, adhere to the seeking of truth in facts, diligently verify summer outputs, and show concurrent concern for the welfare of the state, the collective and individuals, and do a good job of summer grain and oil-bearing crop state procurement work.

9432
CSO: 4007/438

INSTRUCTIONS GIVEN ON HANDLING OF SUMMER GRAIN PROCUREMENT

Beijing ZHONGGUO CAIMAO BAO in Chinese 29 May 82 p 1

[Article: "Take Firmly in Hand Fulfillment of Summer Grain State Procurement Quotas"]

[Text] Summer grain crops will soon be arriving steadily at threshing grounds. This year is the first year for practice of assigned responsibility for state grain procurement, marketing, allocations and transfers with no change guaranteed for 3 years. Taking firmly in hand fulfillment and overfulfillment of summer grain state procurement quotas has a major bearing on winning the initiative in grain work for the year as a whole, for next year and the year after, for providing well for urban and country people's livelihoods, and for assuring national construction needs.

In some of the major wheat growing regions of North China a protracted drought has taken place since last year's fall sowing, and in some of the summer grain growing regions of South China low temperatures and much rain was encountered during the early stage. However, thanks to the strengthening of leadership at all levels of CCP committees and government, the further perfection and improvement of agricultural production responsibility systems, organization of the broad masses of peasants to fight drought and drain away waterlogging, and intensification of field care, damage caused by natural disasters was greatly reduced. This is the overall situation for the country as a whole. However, looked at in local terms, an uneven picture of fatness and leanness appears. Bumper harvest provinces and regions have places and communes and brigades with lean harvests. Lean harvest provinces and regions have places and communes and brigades with bumper harvests too. For this reason, in this year's summer grain procurement, it will be necessary to follow a program of the fat augmenting the lean. It will be necessary to strengthen ideological and political work, and to indoctrinate the broad masses of peasants in the "three concurrent concerns" to induce them to correctly handle relationships among the state, collectives and individuals, to surrender more grain and better grain to help disaster areas, and to support the national building of socialism as a glorious duty. All major producing provinces in North China must sell more wheat from bumper harvest areas. South China rice and wheat producing areas are also to actively fulfill and overfulfill summer great state procurement quotas so long as they do not impair state procurement of husked rice.

Last year some areas instituted quarterly price increases for grain and quarterly settlement of accounts. Production teams and commune members thus obtained increased prices for summer grain. This helped augment production funds and also helped the state procure more summer grain. Nevertheless, some problems exist in work, principally that some production teams and commune members sold summer grain in excess of quotas obtaining a higher price, but did not fulfill basic procurement figures in the fall, and the state could not retrieve the higher price it had paid for excess procurement. This year it is necessary to summarize experiences and to follow the principle of concurrent concern for the welfare of the state, the collective and individuals, further perfecting methods for paying increased prices for excess procurement of summer grain. In addition, there will have to be strict accounts settlement procedures to guard against mistakes and to plug loopholes.

In order to assure smooth fulfillment of summer grain state procurement quotas, during the procurement season each jurisdiction should intensify market management. All who have not fulfilled their summer grain procurement quotas may not send summer grain to market, nor should grain departments make purchases from them at negotiated prices. After state procurement quotas have been fulfilled production teams and commune members having surplus grain should be mobilized to continue to sell the excess to the state so that the fat will augment the lean. In addition, in accordance with the principle of marketing at the prevailing market price, slightly lower than the market price, negotiated purchases should be actively begun. It should be reiterated that grain and oil commodities must be regulated by the centrally administered policies of grain departments, and other departments and units are not permitted to intervene. Unless they receive permission, they may not go to rural production teams and markets to buy up grain and oil.

The summer grain procurement season is short, strongly seasonal in nature, and much work has to be done. All levels of CCP committees and government must strengthen leadership and give firm attention to the job of procuring and storing grain. They must sensibly organize the transportation of grain and promptly move away local surplus grain, emptying out the storage space so that it can accept new grain. They must set up a network of procurement points in a rational way, train personnel, and do a good job in preparing materials and regulating funds, organize mass sales in a planned way, and prevent problems arising of "difficulties in selling grain." They are to adhere to quality standards, arrive at prices on the basis of quality and neither inflate quality to raise prices nor depreciate quality to depress prices. While doing a good job of grain procurement and storage, they should also give attention to providing for the livelihood of the masses in areas hard hit by disasters.

9432
CSO: 4007/440

INCREASED SOYBEAN PRODUCTION HIGHLIGHTED

Summer Soybean Production

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] Every part of a soybean is precious. The root nodules and the leaves replenish the soil's organic material and improve the soil's granular structure; the soybean stalks and soybean cake make fine livestock feed; and the protein content of soybeans is 40 percent, higher than that of any grain crop. The protein content of 1 jin of soybeans is equivalent to that of 4 jin of corn or 5 jin of rice. Development of soybean output bears on the national economy and the people's livelihood, and on growth of agriculture and livestock industry; consequently, it is receiving increasingly serious attention in all countries of the world.

China is the home of the soybean and has several thousand years experience in farming it. In 1953, China held first position in both quantity of soybean output and quantity of soybean exports. However, after 1958, for various reasons tremendous curtailment occurred in the soybean growing area, and total output steadily declined. Despite some revival during the past 2 years, the comeback has been slow bringing about a conspicuous contradiction between supply and demand for soybeans, which hurts improvement in the people's livelihood. Consequently, major efforts to bring about a rise in soybean output is an urgent task confronting us.

The basins of the Huang, Huai, and Hai rivers are one of the major areas of soybean concentration in the country, accounting for about 45 percent of both the growing area and the output of soybeans in the country. This region has very great potential for both increases in the growing area and for improvements in yields per unit of area. Therefore, revival and development of soybean production in the Huang-Huai-Hai basin will mean a great change in the soybean production situation for the country as a whole.

Revival and development of soybean production will require, first of all, solution to two problems. One is the need for a correct understanding, i.e. the way of looking at soybean "low yields." Owing to differences in the physiological conditions for various crops, great differences in size of yields exist. It is indeed true that the yields obtainable from soybeans are somewhat lower than from grain crops; however, their protein content is several times that of corn, wheat, or rice. Therefore, when looking at the size of yields, we should look at both the quantity and quality. At a recent symposium of soybean production in the Huang-Huai-Hai basin, numerous counties having yields of more than 200 jin per mu, communes and brigades having yields of more than 300 jin per mu, and high yield examples of more than 400 jin were reported. These show that when leaders give serious attention and devote to soybeans the same energy they devote to wheat, rice, corn, and cotton, actively promote effective measures for increasing yields, and give painstaking attention from planting till harvesting, new breakthroughs can be scored in soybean yields. Second is the need to implement policies to assure that current soybean porcurement prices remain stable without change. It is also necessary to conscientiously solve problems relating to procurement, transportation, and foreign trade to arouse further peasant enthusiasm for growing soybeans.

Growth of soybean production requires that a certain growing area be guaranteed. Crop patterns require practice of an equitable crop rotation system that both devotes attention to grain production and requires adaptation of general methods to local situations for appropriate expansion of the soybean growing area. The Huang-Huai-Hai river basin grows two crops of soybeans a year, and fields from which wheat has been harvested should be resown to soybeans in summer. Some places can also vigorously promote the intercropping of corn and soybeans during the summer, or use ridges between fields for the growing of soybeans. Yields per unit of area must be increased, efforts put into increasing total output, solution found to the problem of sloppy management of soybean farming, experiences with high yields summarized, and research results promoted for further improvement in scientific farming of soybeans.

Summer Soybean Yields

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] In view of the natural climate characteristics and experiences with bumper harvests in areas sown to soybeans during the summer, winning a bumper summer soybean harvest requires taking the following effective technical measures to increase yields.

1. Early Sowing For a Full Stand

The summer soybean growing season is short and is frequently restricted both by the time of harvesting of the previous crop and the time of sowing of the subsequent crop. Consequently, "no interval exists between the harvesting of wheat and the planting of soybeans." Soybeans have to be planted even while the wheat is being harvested in an effort to sow early so as not to miss the farming season.

In order to get a full stand from early sowing, the wheat stubble from the previous crop should be plowed under and sown so as to be able to work the soil to conserve soil moisture and get a full stand of seedlings. Dibbling of seeds may also be promoted as a means of taking advantage of available soil moisture for early planting, to assure quality of sowing, to attain a full stand of evenly spaced seedlings, and so that fields can be readily cared for. Dibbling can increase yields by 10 percent over drilling of seeds in rows.

2. Reasonably Close Planting and Promotion of Hand Thinning of Seedlings

Today problems exist in overly close sowing of soybeans or serious gaps in seedlings. Through the promotion of hand thinning, plants that have been too thickly sown may be used to fill in sparsely planted places to get the right density and to get rid of weeds to help soybean seedling growth. Thinning of seedlings has to be done early and lightly. Generally the time to begin is when the cotyledon appears and the hand is able to take hold of the seedling. Each mu should contain a stand of between 15,000 and 20,000 seedlings.

3. Reasonable Fertilization

Because the time for rush harvesting of wheat and rush planting of soybeans is short, and time is required to prepare the land, fertilizing cannot be done, so during the flowering stage of seedlings, quick acting nitrogenous and phosophate fertilizer applications help branching, differentiation of blossom buds, and fruiting of blossoms. Generally between 10 and 20 jin per mu of standard nitrogenous fertilizer should be applied. After the soybean growing season is over, the root nodules gradually deteriorate and absorption of fertilizer by the root system declines, so prompt top dressings of fertilizer should be given. The way to do this is as follows: 1 shijin of urea, 3 jin of calcium supersphosphate in solution, and 0.7 jin of potassium sulfate per mu, or else 0.7 jin per mu of potassium dihydrogen phosphate. Water should be added to make 150 jin and the leaves sprayed toward evening on an overcast day, spraying done once every 7 days for a total of three time for a 10 to 15 percent yield increase.

4. Prompt Cultivating and Hoeing of weeds

When soybeans are sown as a crop following wheat, it is the end of the dry season and the beginning of the wet. When seedlings reach a full stand, in conjunction with the final thinning of seedlings, the first cultivating should be done. The second cultivating should be done at the end of June or the beginning of July, and the third cultivating done before the rows grow shut, prompt weeding being done at the same time.

5. Prevention and Control of Diseases and Insect Pests

In the Huang-Huai-Hai soybean growing area, the major diseases, insect pests and weeds are grubs, soybean moths, zaoqiaochong [6644 2890 5722], beanstalk flies, beanpod borers, bean eating insects, virus diseases, downy mildew, and soybean Chinese dodder.

Control methods. Before the rows of beans grow shut, a combination of hoeing and spreading of soil treated with pesticide (1.5 jin of a six percent benzene hexachloride powder added to 70 or 80 jin of soil) should prevent grubs. During the young larva stage of bean moth and diqiaochong, spraying may be done with either dipterex or dichlorvos. For beanstalk flies, spraying of adults with a pesticide should be done. For control of bean eating insects and beanpod borers, poison bait (20 - 40 jin of wheat bran containing 2 - 3 liang of dichlorvos per mu), should be set out on sticks stuck into the ground. When Chinese dodder is found, it should be thoroughly removed, taken out of the field and destroyed.

Steady Soybean Output

Beijing ZHONGGUO NONGMIN BAO in Chinese 24 Jun 82 p 2

[Text] Revival of soybean production in Henan Province has been very rapid during the last 3 years. In the 3 year period from 1979 to 1981, the average annual increase in area sown has been 2,508,000 mu for a gross output increase of 745 million jin. In 1981, soybean yields per unit of area, total output, and commodity rate all set record highs.

Henan Province is one of the major summer soybean growing areas in the country. Following Liberation, soybean output rapidly developed. After 1958, however, as a result of interference from erroneous "leftist" ideology and a one sided emphasis on high yield crops with grain being favored over beans, plus the inequitable price paid for soybeans, both the area planted to soybeans and output gradually declined. Since the Third Plenary Session of the 11th Party Central Committee, Henan Province has made the most of advantages for growing soybeans, has equitably readjusted crop patterns, and has reinstated the soybean growing area. Soybean production has been revived in Henan largely on the Huang-Huai Plain and in eastern and south central Henan, intermediate and low yield areas where soil fertility is not high. In some intermediate and high yield areas, intercropping of soybeans and corn has been done so that, while assuring a certain total output of grain, the soybean growing area is year by year being reinstated to the 17.9 million mu of 1981. In addition, a responsibility system linking output to calculation of remuneration has been generally instituted for soybean production; technical guidance has been improved; technical training has been launched; and scientific and technical households have been established. The broad masses of peasants have actively added to the numbers of draft animals, done more work, fertilized more, used fine varieties and have planted well and cared for crops painstakingly so that bean output has steadily mounted and many representative examples of high yields have appeared. In 10 communes in Tanghe County, yields have been more than 250 jin per mu. In Xiangcheng County, 700 households had produced yields of more than 400 jin per mu from 2,800 mu of soybeans. In order to make soybean production rise, Henan Province has decided over the next several years to "stabilize the growing area, launch the main attack of higher yields per unit of area, increase total output, and increase the commodity rate."

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PRE-HARVEST INSTRUCTIONS GIVEN ON WINTER WHEAT CARE

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 May 82 p 1

[Article: "What Has To Be Done About Late Season Wheatfield Care? Officer in Charge of Agriculture, Animal Husbandry and Fishing Industry Department Answers Reporter's Questions"]

[Text] What is the current situation in winter wheat production? What work has to be done in caring for late season wheatfields in order to obtain a bumper harvest? The newspaper's correspondent visited the Agriculture, Animal Husbandry and Fishery Department to ask these questions, and the officer in charge replied as follows.

After the wheat was planted last fall, because of the drought in the north and waterlogging in the south, low temperatures, and small cumulative temperatures during the winter season, the wheat seedling situation at the onset of winter was everywhere not as good as during the previous year. However, as a result of the further institution of production responsibility systems, last winter and this spring firm attention was given to wheatfield care. Between mid-December and early March, temperatures were higher than in most years; cumulative temperatures were greater than during the same period last year; wheat freeze damage was slight, greening up occurred comparatively early; and the wheat seedlings took a turn for the better. This was manifested in the following ways: colonies had noticeably increased as compared with the onset of winter; the proportion of grades 1 and 2 seedlings rose, and the proportion of grade 3 seedlings fell.

At the present time there are also some disadvantageous factors for the winter wheat, and new problems may appear. One is that the current drought continues to develop. During April little rain fell over most of the northern winter wheat belt, and the threat from drought was very great. Weather forecasts predict a continuance of little rainfall in the north during May, so the job of fighting drought to protect the wheat will be a heavy one. Second, after mid-March many places experienced a springtime return of winter cold. Wheat jointing was delayed, and this led to late heading and a short in-the-milk stage, opening the prospect of damage from hot dry winds. Third, in most areas of the Chang Jiang and Huai basin, too much rain fell during May, and there was too little sunshine, making easy damage from stagnant water and wheat scab. In addition, in most places this year, individual wheat plant development was poor and ability to withstand damage from disaster weakened, which hurt prospects for increased yields. Fourth, wheatfield care was very uneven from place to place.

Winning of a bumper wheat harvest this year will still be a very arduous task. Given the local wheat growth situation and existing weak links it will be necessary to adapt general methods to local situations, to the seedlings, and to the time in an intensification of late stage wheat care. Northern wheat growing areas will also have to center field care around combat against drought through watering of the wheat. It is necessary to make full use of all water sources, do an effective job of pump well management responsibility systems, increased benefits derived from irrigation, and make sure to water the wheat during the in-the-milk and full ripening stages. Secondly, action will have to be taken so the wheat can withstand hot dry winds. In addition to watering in advance of the hot dry winds, spraying with potassium dihydrogen phosphate can also be done. Not only can potassium dihydrogen phosphate augment the supply of phosphate and potash that the wheat needs for growth during the late stage, but it can also play a role in strengthening the wheat's ability to withstand disaster. Southern wheat growing areas should give attention to cleaning out ditches and draining water to prevent water stagnation. Reports tell of outbreaks of powdery mildew and wheat scab, and army worms may also develop. Disease and insect pest monitoring and reporting work has to be intensified so that timely prevention and control can be done. In short, all prefectures should seize the opportune time to improve their production responsibility systems, to improve their level of scientific care, and use every available means to win a bumper wheat harvest.

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'RENMIN RIBAO' STRESSES WATER-SOIL CONSERVATION

HK271327 Beijing RENMIN RIBAO in Chinese 24 Jul 82 p 2

[Commentator's article: "Resolutely Stop Those Acts That Undermine Water and Soil Conservation"]

[Text] The story of Haojialing production brigade of Zhongyang County in Shanxi Province, which reclaimed wasteland on steep slopes by ruining forests and grasslands is really startling. Zhongyang County was an advanced unit in preventing soil erosion in the mid-1950's. However, today, more than 20 years later, certain brigades of this county have gone so far as to seriously undermine water and soil conservation, and thus have destroyed in 1 day that which was achieved with painstaking efforts over years. The facts of the Haojialing brigade case tell us that we can no longer be indifferent to those practices of destroying vegetation which are occurring in quite a few places at present, gaining a little bit of profit at the expense of upsetting the ecological environment in which mankind is living is in fact a practice of killing the goose that lays the golden eggs, or rather, a practice of drinking poison to quench thirst. We must resolutely take measures to stop these acts that undermine water and soil conservation, and protect and improve the existing vegetation cover.

Destroying vegetation cover will give rise to serious consequences. This is common sense and is known by many people today. More than 100 years ago, Engels clearly pointed out, "In order to get more farmland, the people in Mesopotamina, Greece, Asia Minor and other places felled all forests. Nevertheless, contrary to their expectation, all these places have become barren land today, because they eliminated all the forests there by thereby eliminating all centers which collect and store water." Today, we need a good ecological environment as we are carrying out the construction of the "four modernizations," which includes the modernization of agriculture. What modernization can we expect if we just let the land which breeds every living thing continually suffer destruction?

"The regulations of water and soil conservation work" recently promulgated by the State Council, definitely provided that water and soil conservation must be strengthened, and that denuding forests and reclaiming wasteland on steep slopes by ruining forests and grassland are strictly prohibited. At present, one of the most important tasks for our leading organs at various levels, in particular the leading cadres in mountainous regions, is to conscientiously implement the "regulations," thoroughly carry out propaganda and education, and enhance the understanding of the vast number of cadres and the masses on the perniciousness of water and soil erosion and the importance of water and soil conservation. Various localities must promptly formulate detailed provisions for implementation and rules and regulations for concerned villages so as to more efficiently protect water and soil conservation facilities from being destroyed. We must adopt correct policies and measures to mobilize the initiative of the vast number of cadres and the masses. All units and individuals taking the initiative in protecting forest vegetation and reasonably utilizing water and soil conservation facilities for developing production should be encouraged and supported, and be rewarded with substantial economic benefit. Those who damage water and soil conservation facilities to seek personal and partial interests must be penalized economically. We must enforce the law and discipline, and seriously deal with those lawless elements who knowingly and seriously undermine water and soil conservation and refuse to mend their ways despite repeated admonition. We must resolutely stop people from continuing to cultivate crops on those steep slopes which are easily susceptible to soil erosion, and order them to replant trees and grass and take the responsibility of taking care of the planted seedlings. We must show to people the fact that seeking profit by undermining water and soil conservation can only be harmful and will never work.

In order to properly promote water and soil conservation, and terminate once and for all those activities of wantonly reclaiming waste land and undermining the ecological environment in mountainous regions, we must keep on reforming the agricultural economic structure in these regions. We must proceed from the overall situation, rationally arrange grain production and avoid blind development. In the past, mountainous regions used to export mountain products and import grains from the plains. Today, this historical barter relationship no longer exists in quite a few places. At present, the people in many mountainous regions have to solve the problem of grain supply by themselves. They plant grain crops on the hills. This causes serious water and soil erosion on some hillsides with steep slopes. However, at the same time, more farmland is used to cultivate industrial crops and the area of grain fields is constantly reduced in some plain regions which are suitable for grain planting. As grain producing areas fail to supply more grain, mountainous regions which are unsuitable for grain planting cannot help but reclaim wasteland and produce grain themselves. We must actively change this unreasonable situation step by step and in the light of the overall situation, give full play to the strong points of mountainous regions and grain-producing areas, conscientiously develop agriculture and a diversified economy according to the local conditions, and thus shape a healthy cycle of production and ecology.

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NEED FOR IMPROVED HYBRID RICE VARIETIES UNDERSCORED

Fuzhou FUJIAN RIBAO in Chinese 2 May 82 p 2

[Article by Li Senhui [2621 2773 1920], Rice, Wheat and Barley Institute, Provincial Academy of Agricultural Sciences: "Improve Paddy Rice Breeding Work"]

[Text] Fujian Province is facing a problem of increasing grain output with all possible speed. There are two ways of solving this problem as follows: One is to expand the growing area, and the other is to increase yields per unit of area. The province's population is large relative to the amount of land requiring that the land be extremely cherished and that every available means be used to guarantee the area planted to grain. However, of even greater importance in increasing grain output is efforts to increase yields per unit of area. For improvement of rice output from the area being farmed, one good method is selection of fine varieties.

Since founding of the Chinese People's Republic, Fujian Province has done no small amount of work in the breeding and promotion of fine varieties. Rice yields per unit of area have risen from 196 jin in 1949 to 537 jin in 1980, a remarkable result. But how can we continue to hold fast to this crux of breeding and promoting fine varieties in the future?

One way is to define the direction of major attack. Today the peasants urgently demand that we breed high yield disease resistant varieties. Right now the greatest problem with the province's rice varieties is poor resistance to disease, which damages increases in yields. Rice blast and bacterial blight are great enemies of rice production. Last year damage to the early crop caused by rice blast was extremely serious, and most red strain varieties are particularly susceptible to disease. This makes the peasants lose confidence, and this raises an extremely grave problem for our scientists and technicians, namely how to breed with all possible speed new high yield disease resistant varieties. Some places have already bred new varieties that offer hope, and this is very heartening. But these new varieties will certainly have to undergo strict evaluation, and cannot be blindly promoted for cultivation. Some places are currently completely down on red strain varieties and tend toward indiscriminate use of unevaluated new varieties. Every jurisdiction should be alert to this.

Second, the situation of careless production of hybrid seeds has to be corrected. During the past year or two, many cadres and commune members have reported that "hybrid rice is mongrelized and no longer fine." Why is this? In terms of the hybrids per se, problems exist in the selection and breeding of fine combinations, but the fundamental reason lies in careless production of hybrid rice seeds. Right now in many communes and brigades, seed production is done by individual households or is scattered throughout a production team. Because both seed production techniques and conditions for separation are poor, the seeds produced are not pure, so the situation of "mongrelized and not fine" has become serious. It is recommended that "counties should breed and counties should develop," or else "counties should breed and communes develop" to assure quality and overcome the problem of "mongrelized and not fine." In addition, careful attention should be given this work.

Third is the need to make the most of existing technical forces to organize a concerted attack. The province currently has quite a number of units and people able to do the scientific and technical work of developing seeds. However, these personnel are widely scattered; additionally equipment is poor and funds are short making it impossible to meet the needs of research and production. High level leadership units should strengthen leadership to organize these forces to conduct a concerted attack, to solve some real problems, and to change the former backward situation of engaging in seed production with "a hoe in one hand and a basket of manure on a shoulder pole."

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INCREASING RICE YIELDS IN LOW, INTERMEDIATE AREAS VIEWED

Fuzhou FUJIAN RIBAO in Chinese 2 May 82 p 2

[Article by Lu Haoran [4151 3185 3544], professor, Fujian Academy of Agricultural Sciences: "Exploit Production Potential of Intermediate and Low Yield Areas"]

[Text] What should the focus of Fujian Province's grain production be? I feel that exploitation of intermediate and low yield area's production potential fits the principle of small investment, quick results, and high benefits. The province's intermediate and low yield areas account for more than two-thirds the cultivated land area. Investment in areas with yields of 400 or 500 jin or 600 or 700 jin per mu holds an increased yield potential, a more rapid results potential, and a higher benefits potential than investment in areas that exceed "double goals" or double 1,000 jin in a year. Take fertilizer as an example. Fertilizer utilization rate and benefits in increased output per jin of fertilizer decrease as the amount of fertilizer increases. If each jin of ammonium sulfate can increase paddy yields by about 5 jin on an infertile field, on a fertile field it will increase yields by only 2 or 3 jin, a difference of almost 100 percent. This becomes a matter of "answering a genuine need," or "making perfection more perfect." Of course, what constitutes high, intermediate, or low yields is relative and changes as a result of development. High yields can always become higher yields. Use of limited financial, material, and human resources to get optimum economic benefits is an extremely important strategic matter.

Attention to intermediate and low yield area production requires adaptation of general methods to local situations and the promotion of effective technical measures, including traditional practical experiences and both domestic and foreign scientific achievements during the past several decades. A few examples are provided as follows: (1) Under guidance of state plan, adaptation of general methods to specific situations for a gradual restructuring of the agricultural structure of farming, forestry, livestock raising, sideline occupations, and the fishing industry, equitable crop patterns, and sensible matching of varieties. For example, when rice is grown in the deep and sodden fields at the entrance to mountain areas, it is prone to remain in the vegetative stage and to lodging; output is not high and consideration should be given to converting the fields to fish ponds with concurrent growing of lotus, duckweed, water cabbage, or such livestock feeds. Double crops of rice in high mountain regions produce inconsistently high yields, and it might be better to change to the growing of a single crop of intermediate rice (or hybrid rice) plus one crop of potatoes. (2) Farmland capital construction centering on harnessing of water and soil improvement. Low yield fields produce low yields because they are arid, waterlogged, cold, leached, sodden, infertile, clayey, sandy, or acidic, so the cure should fit the ailment, and disadvantageous factors should be eliminated to improve agricultural production conditions. But there should be no practice of formalism and no making of so-called "small, artificial plains." Genuine effectiveness should be the goal in a combination of the long term and the short term, with medium and small projects predominating, and with self-reliance predominating for equitable use and expansion of the investment of peasant labor. (3) A combination of fine varieties and fine methods so that fine methods will translate into reality the possibilities for increased yields of fine varieties. One does not necessarily have to promote fertilizer tolerant varieties in intermediate and low yield areas, but rather one should promote varieties of particularly wide adaptability that economize on use of fertilizer. (4) Improvement in distribution and use of fertilizer. In low yield and grain producing areas, additional care should be given fertilizer distribution because high yield areas or economic crop areas get fairly large bonus sales of chemical fertilizer. In mountain areas, the lack of phosphate and sulfur [sic] is fairly serious and soils are acidic for the most part. More superphosphate, potassium sulfate, gypsum, lime nitrogen, and lime should be distributed. In applying them, the past practice should be changed whereby much was applied early in the season and little applied late in the season, and whereby much was applied to nearby fertile fields and little applied to distant infertile fields. Use of farmyard manure on infertile fields brings fairly great benefits. Delayed action phosphate fertilizer is used on pulse crops and green manure crops, the phosphate increasing the action of the nitrogen; and quick-acting phosphate fertilizer is used on seedling fields or around seedling roots. It is recommended that ammonium carbonate, which readily volatilizes, be applied deeply in pellet form. In short, fertilizer should be distributed and applied on the basis of results of soil surveys, scientific testing, and production practice, and in accordance with the land and crops on which it is to be used so that limited fertilizer will bring greater benefits in increased output. (5) Use of comprehensive measures to prevent diseases, insect pests, and weed pests though use of disease and insect pest resistant varieties and wetland and dry land crop rotation. (6) In mountain areas where there is much land relative to population, and where a shortage of workforces exist for summer harvesting and planting, special attention should be given to improving the labor productivity rate. Priorities should be established in mountain regions for places where farm machines for plowing, planting, harvesting, hauling, and drying will be promoted.

Serious attention should go to study of agricultural science and technology. One of the main reasons why many intermediate and low yield crop production area outputs have fluctuated without rising has been careless farming and backward techniques, so study of agricultural science should be made a matter of importance. Forces should be organized for a concerted attack on key problems requiring scientific study to produce results rapidly in order further to develop agricultural production in high, intermediate, and low yield areas.

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PROVINCIAL STATE FARMS' 1980 PROFITS REVEALED

Fuzhou FUJIAN RIBAO in Chinese 21 May 82 p 1

[Article: "Fujian Province's State Farms Profited Much Last Year. Economic Benefits Continued To Increase This Year. Early Quarter Production Situation Good"]

[Text] Last year the state farms in Fujian Province racked up profits once again on top of the profits of the 2 previous years. Profits amounted to 8.17 million yuan, a 23 percent increase over the previous year, making last year's profits the highest of the 3 years. This situation was presented by the recently convened state farm work conference.

Last year Fujian Province's state farms scored remarkable economic results. Except for a slight reduction of grain output occasioned by a downscaling of acreage and damage from natural calamities, economic crops, the livestock industry, and industrial sideline occupations all saw remarkable increases in output and earnings. The number of profit making enterprises increased from 86 in 1980 to 95 in 1981. This was 75 percent of the total number of enterprises. Losing enterprises fell by 10 from 1980. Tax revenues surrendered to the state in 1981 amounted to 6.85 million yuan, making it an all-time high year. All enterprises retained some award funds and increased employees incomes out of profits. They also withheld some funds to run employee dormitories, hospitals, schools, and such welfare endeavors. The material and cultural livelihoods of farm employees saw obvious improvement.

Provincial State Farm and Land Reclamation Bureau leadership comrades said, in the course of giving a briefing on experiences in scoring achievements, that prominence was given to two tasks last year. One was the stabilization and perfection of production responsibility systems; the other was readjustment of the internal structure of enterprises. While stabilizing grain production, they strove to develop economic diversification. Right now the production situation in state farms throughout the province is very good. In the growing of early rice, peanuts, soybeans and tobacco, plans handed down by the province have been fulfilled.

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BRIEFS

DATIAN COUNTY SOYBEAN PRODUCTION--Fujian's Datian County expanded the sowing of soybeans with good results this spring. Its 30,000 mu of soybeans yielded more than 4.6 million jin. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 7 Jul 82 OW]

CSO: 4007/490

HENAN

BRIEFS

WHEAT OUTPUT, PROCUREMENT--Overcoming a severe natural disaster unusual since the establishment of the PRC, Henan Province reaped a bumper wheat harvest this year, with a total output reaching 22.7 billion jin. Compared to the bumper harvest year of 1981, this is an increase of 470 million jin, a historical record once again. By 8 July, Henan Province had procured 3.84 billion jin of wheat, and overfulfilled the summer grain procurement quota by 400 million jin. [Beijing RENMIN RIBAO in Chinese 13 Jul 82 p 1]

CSO: 4007/491

ISSUANCE OF WATER-USE PERMITS BOOSTS AQUATIC PRODUCTION

Huaiyin Prefecture Leads Way

Beijing RENMIN RIBAO in Chinese 11 May 82 p 2

[Article: "Huaiyin Prefecture Begins Work of Issuing Water-Use Permits"]

[Text] Huaiyin Prefecture in Jiangsu Province has begun the work of issuing permits for the use of collective surface water in rural people's communes. On the basis of delimiting the water belonging to the three levels--commune, production brigade, and production team--it has transferred water use rights from the collective to specialized brigades, specialized teams, specialized households, or individual commune members, thereby stimulating the enthusiasm for breeding fish on the part of the collective and the individual commune members.

Located on the lower reaches of the Huaihe River, Huaiyin Prefecture has a vast amount of surface water; and there are 1.6 million mu of water in which fish can be bred and aqautic economic crops grown. In the past, the rights to use some of the water were not clear, and the water resources were not fully used. In 1981, only a little over 800,000 mu were used for breeding and growing throughout the prefecture. After there was established in agriculture the responsibility system of contracts and linking output to remuneration and there was obtained a fairly large development in production, the agricultural problem of aquatic products backwardness, which created unclearness about water use rights, became more prominent. Last year, the Nanguangdang Commune in Shuyang County, by improving its management and administration of water, effected a big change in its situation. The commune delimited its over 1,700 mu of water surface as follows: over 80 mu to be managed by the commune, over 200 mu to be managed by production brigades, over 1,300 mu to be managed by production teams, and 78 mu of odd stretches of water surface to be privately owned and managed by commune member households. Afterward, by means of contracting out collectively managed water, the commune further delimited the use rights to specialized brigades, specialized teams, and specialized households, and this fundamentally changed the past situation in which "the collective had water but did not use it for breeding, and the masses thought of breeding but had no water." In this one year of breeding fish on ponds on the 1,700 mu of water surface, the total output of fresh fish was 350,000 jin, which brought in over 240,000 yuan of income. After summing up the experiences of Nanguangdong Commune, the Huaiyin Prefectural CCP Committee decided to begin the work of issuing water surface use permits throughout the prefecture.

First the party committee carried out experiments in this regard at Xuyi County. After gaining experience from the experiments, the committee started this work at the beginning of this year in 13 counties and cities. The main method was to carry out investigations of water surface resources, measure the water surface, confirm the limits, and, based on the history of distribution and the present situation, suit measures to local conditions and determine what water surface belonged to each of the three levels--production team, production brigade, and commune--and then, one by one, registered these limits in official books. Under the premise of the water surface proprietary rights generally not being changed, the committee gave out contracts for the use of collectively managed surface water to specialized brigades, specialized teams, and specialized households. After determining the profit distribution, the county people's government issues surface water-use permits, so that the water use rights will certainly not be changed for several years. The profits on water surface turned over by the collective for the commune to manage for their own personal needs go to the individual commune members; with water-use permits being issued by the county people's government to commune members, the proprietary rights of commune members households will not be changed for a long period of time.

In order to guarantee that the commune members, after being given the water-use permits, will effectively organize production, Huaiyin Prefecture stipulated that, after being issued the permits, the normal production activities and the proper economic interests of the users are to be protected by state laws, which no one can violate. Under the guidance of state and collective plans, the users have the right to manage the water on their own initiative and have the right to carry out some capital construction beneficial to the development of aquatic production, and to engage in planting, breeding, and other overall management activities. The rural regulations and civil agreements drawn up under the collective responsibility system educate the commune members not to steal, blast, or poison fish, and do not permit arbitrary equalitarianism and indiscriminate transfer of the aquatic products of fish-breeding households, thereby protecting the economic interests of the commune members. However, the water users may not transfer their rights, let out the water, buy or sell their rights, or fill up the water with earth; and water in which there has been no breeding or planting for the period of 1 year will revert back to the collective and other arrangements will be made for it.

According to statistics, permits have now been issued for the right to use over 280,000 mu of water in the prefecture, accounting for about 35 percent of the water for which permits should be issued; the counties of Xuyi, Siyang, Suqian, and Hongze, which made fairly rapid progress, have already finished the work of issuing water-use rights permits; and commune members of over 20,000 households, specialized teams, and group leaders have water-use permits affixed with the county government stamp.

As of the first part of April, throughout the prefecture spring breeding of fish was being done on 400,000 mu, an 11 percent increase over that of the corresponding period of last year; 150 million fish of various kinds were being bred, a 25 percent increase over that of the corresponding period of last year; and aquatic economic crops such as reeds, water chestnuts, lotus roots, and Gorgan fruit had been planted or sown on over 100,000 mu, an increase of 71 percent over that of the corresponding period of last year.

Short Commentary

Beijing RENMIN RIBAO in Chinese 11 May 82 p 1

[Article: "Important Measure for Developing Freshwater Breeding Enterprises"]

[Text] In Huaiyin Prefecture, Jiangsu Province, the issuing of fixed rights permits for use of the collective's water surface has aroused the enthusiasm of the collective and the commune members. Throughout the prefecture in spring, the number of fish bred rose 11 percent over that of the corresponding period of last year, and the acreage on which various aquatic economic crops were planted and sown rose by 71 percent over that of last year. This was a good experience in accelerating the development of freshwater breeding enterprises.

Currently, the water surface in some localities in the rural areas cannot be fully utilized and the development of freshwater breeding is not fast. The main reason for this is that the right to use the water surface is not clear. "Everybody tries to obtain water surface but nobody uses it for breeding." In places where the production responsibility system has not been put into effect, "the collective has water surface but does not release it for breeding, and the masses think of breeding but do not have the water surface for it"; and in some places where the production responsibility system has been established, because the time limit for using the water surface has not been made clear, the masses worry that they will not be able to use it for breeding for a long period of time and thus are unwilling to put much work and money into the breeding, so that the potential of the water resources cannot be fully brought out. On the basis of delimiting the water jurisdiction of communes, production brigades, and production teams, Huaiyin Prefecture did a good job of issuing water rights permits, assigning water rights for fairly long periods of time to specialized brigades, specialized teams, specialized households, and individual commune members, thereby stabilizing both the policy and public feeling. This is an important premise for arousing the enthusiasm of communes and production teams and of individual commune members, for exploiting and using water resources, and for developing aqautic production. By getting this good a grip on breeding, the masses' enthusiasm is aroused and freshwater breeding production can be developed fairly quickly. With regard to investment in aquatic production and the popularization of the science and technology of aqautic production, its effect is to get twice the result with half the effort. Developing aqautic production, as is the case with engaging in other enterprises, cannot be separated from the masses' enthusiasm. Huaiyin Prefecture's issuing of water surface rights permits means that the water users have the right to act on their own initiative in managing the water, so that the comprehensive management of the planting and breeding in the water can be carried out and so that, proceeding from the long-range goal of management, capital construction of the water surface can be carried out; the water users get more profit from putting out more work, the economic results are protected by law, and the income of the commune and the production team is increased, thereby organically combining the unified management of the collective with the independent management of the commune members.

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TRADITIONAL SKILLS USED TO BOOST SOIL PRODUCTIVITY

Beijing RENMIN RIBAO in Chinese 6 May 82 p 1

[Article: "Improving Soil Fertility and Lowering Agricultural Costs"]

[Text] Since last winter, Jiangsu Province's Suzhou Prefecture, which possesses rich traditional agricultural skills and a fairly high level of farming, has made a point of restoring and developing traditional agricultural skills. A set of measures for output increases, which had been formed over many years in the past, have begun to be applied fairly well at each production link. Last winter, the acreage of wheat, barley, and oats throughout the prefecture under irrigation by water, river, and silt reached over 85 percent; this year there occurred a high tide of organic manure collection and fertilizer making that had not been seen for several years, and by the end of March on every mu of paddy rice there were 62 dan of accumulated grassy pond silt.

Suzhou Prefecture is one of China's key commodity grain bases. The peasants there have very rich experience in effectively utilizing land productivity and natural conditions. The output of grain and other agricultural crops is relatively high. In the past 2 years, some people thought that to modernize agriculture it was not necessary to bear hardships and stand hard work and that crop cultivation could be done by "applying chemical fertilizer and irrigating with ammonia water." Some traditional agricultural skills and production experiences were gradually neglected. In some places, the amount of organic fertilizer used became less and less, the amount of chemical fertilizer applied grew and grew, and agricultural costs rose higher and higher.

The Suzhou Prefecture CCP Committee and the prefecture's administrative office concluded that if this year's grain production was to be raised, there certainly must be displayed a spirit of hard struggle, the traditional experiences accumulated for a long time by the broad masses of peasants must be applied, costs must be lowered, results must be improved, and organic agriculture must be restored and developed. The prefecture vigorously popularized the experience of Taoyuan Commune, Wujiang County, in the mutual promotion of grain, silkworm, and animal husbandry undertakings, thereby improving people's knowledge of organic agriculture. For many years, Taoyuan Commune has raised a large number of pigs, sheep, and rabbits, has collected grassy pond silt, has returned stalks to fields, has put aquatic plants in suitable places for growth, has transported refuse from cities and towns and mixed it with fertilizer, and has applied relatively large amounts of organic fertilizer to every crop on every mu, thereby nurturing and fertilizing the land. Although the commune suffered natural disasters in 1981, its grain output still rose. By contrast, in some places much chemical fertilizer is used, the amount of organic fertilizer has decreased, land productivity has fallen, the resistance power of crops has weakened, and plant diseases and insect pests have become a serious problem, thereby adversely affecting output. This contrast has heightened people's understanding.

So that the work will be done well, the Suzhou Prefecture CCP Committee and the prefecture's administrative office have taken practical measures at every stage of production. For example, in February of this year, an on-the-spot meeting on collecting manure and making fertilizer was held in Fengqiao Commune, Wuxian County, which mobilized the great number of cadres and masses to effect an upsurge in collecting manure and making fertilizer. The administrative office designated March as a month for collecting manure and making fertilizer. Of the 53,000 production teams in the prefecture, every day over 48,000 teams are engaged in manure collecting and every day, at a steady rate, about 50,000 manure-collecting boats set out. In this way, the rate of manure collection was greatly accelerated, and everywhere on the prefecture's verdant fields there is grassy pond silt. There are fairly many cities and towns within the boundaries of Suzhou Prefecture, and this year the energy displayed by peasants in going into cities and towns to collect refuse to be mixed with fertilizer has been remarkable.

9727
CSO: 4007/417

JIANGSU

IMPROVEMENT OF SEED PURIFICATION STANDARDS DISCUSSED

Nanjing XINHUA RIBAO in Chinese 20 May 82 p 1

[Article: "Strive To Improve Purification Standards for Field Crop Seeds"]

[Text] Purification of field crop seeds is a basic task in seed work that has an extremely great bearing on development of agricultural production. Since the Third Plenary Session [of the 11th Party Central Committee], throughout the province fairly serious attention has been given seed purification. A lot of work has been done and definite achievements have been made. Throughout the province the fine variety area of the eight major crops has expanded rapidly for a virtual growing of little but fine varieties. Simplification of crop varieties has also been fairly evident, and extent of purification has also increased. Nevertheless, substantial unevenness exists in seed purification standards. For some crops the fine variety area is small and extent of purification is not high. In some places there are many varieties of the same crop and seeds have become mongrelized, the mongrelization now reaching serious proportions. In other places management of varieties and construction of seed bases require further improvement. The existence of these problems attests that the present state of seed work does not meet current requirements for the development of agricultural production, and that a good job of seed purification must be done at once.

Development of a socialist economy requires concern for economic benefits. In order to increase economic benefits from seed work, a good job of seed purification has to be done. Jiangsu Province's cultivated land area is small and grain, cotton, and edible oil output quotas are heavy. To insure a certain speed of agricultural growth, one cannot pin one's hopes on expansion of the cultivated area. Most important is reliance on increases in yields per unit of area, and increase in yields per unit of area requires not only devoting efforts to the culturing of crops, building fertilizer capacity, and improving the soil's physical and chemical properties, but even more important is to do something more about seeds. If we carry out a general purification and rejuvenation of grain, cotton, and oil bearing crop seeds, and replace field seed plans, even figuring on the basis of a fairly low increase in yields, the province's grain output could be increased by 2 billion jin, and economic income increased by 200 million yuan. Ginned cotton output could be increased by more than 900,000 dan for an increase in earnings of 150 million yuan; and oil bearing crops could be increased by 550,000 dan for an increase in earnings of almost 30 million yuan. These are output and earnings increases figured solely on the basis of increased seed purity. Were output increases from fine varieties factored in, even more impressive figures would result.

Enthusiasm for scientific farming is very high in all communes and brigades and among the peasants in the farflung rural villages in order to increase output and earnings, and the demand for fine varieties is extremely urgent. They want not only new varieties with high yields, fine quality, early ripening capabilities, strong resistance, wide adaptability, and all around fine properties, but they also demand seeds with a high degree of purity and high quality. Consequently, it is extremely important that we summarize experiences, absorb past lessons, and place on the daily agendas of leaders concerned at all levels the job of purifying fine variety field seeds.

Seed work has many aspects, as for example management of varieties and regionalization of distribution, purification and rejuvenation and replacement at fixed times; building of seed bases and carrying on specialized production; and organization of the production, state procurement, and marketing of fine varieties, etc. However, improvement of fine variety purification standards for field crop seeds is a key problem in seed work. This is the bottom line in judging and checking on all kinds of seed work. If this key problem is to be taken firmly in hand and a firm stand taken on this bottom line, the thinking of some comrades that values doing things but slights breeding, that values introducing things but slights rejuvenation, that values using them but slights caring for them will have to be overcome. Seed units at all levels should centrally manage the introduction of new varieties. In the production of new varieties, they should follow a sequence of "experiments at two levels; prefecture examination; and centralized examination and verification, assigning a name, and promotion by the province," with planting being done in designated spheres. Varieties that have not undergone testing should not be presented for examination, and varieties that have not been examined and approved or that have undergone examination and been found wanting may not be promoted at will by any unit or individual. When varieties are introduced, scientificness is desired with less blindness. Replacement of varieties requires positiveness, prudence, thoroughness, and precision. For planned propagation and planned replacement, both fine varieties and fine methods should be promoted together so as to avoid large ups and downs and to guard against blindly seeking after something new.

Sensible simplification of varieties is a major step in bringing about seed purification. Therefore from the foundation of a variety survey and in combination with production requirements of all jurisdictions, a comprehensive inventorying and appraisal should be conducted to decide which varieties should be developed and promoted, which ones may be used transitionally, and which ones should be rejected. In simplifying varieties, peasant varieties should be identified and matching of varieties should be rational to preserve a relative stability.

Impure seeds of fine varieties cannot produce their full potential for increased yields. Therefore, comprehensive launching of purification and rejuvenation work is an effective measure for insuring the variety characteristics of fine varieties, for preventing mongrelization and deterioration, and for lengthening the number of years a fine variety may be used. Purification and rejuvenation work requires a division of labor. Purification of hybrid parent pairs is taken care of by seed departments at the provincial and prefecture levels. Purification of conventional varieties is done mostly by counties, by state stock (or fine) variety farms, and my county agricultural institutes. Production units having requisite conditions may also be selected to establish bases by special arrangements for purification and rejuvenation. Many years of experience show that when individual communes and brigades engage in purification and rejuvenation, setting up their own small but complete systems, not only is there a duplication of work that produces a waste of manpower, material, and financial resources, but as a result of problems in technical standards and management, quality of purification and rejuvenation is also likely to be impaired. Vigorous launching of mass selection and withdrawal of seeds is also an effective way to prevent mongrelization and deterioration of seeds. All jurisdictions should use various ways to mobilize the masses to select and withdraw seeds in each crop selection season. Places practicing the contracting of work tasks or production to individual households are to assign these seed selection tasks to households. In addition, there is no need to set up fixed seed bases or to engage in specialized seed production. Strict attention to all around quality management, vigorous promotion of machine selection of seeds, genuine strengthening of seed inspection and quarantine work so that every link from seed production to procurement, to processing, to transportation, to packaging, to storage, and on to marketing meets set quality standards will insure seed purity.

9432
CSO: 4007/440

BRIEFS

SHUYANG COUNTY SUMMER HARVEST--Shuyang County in Jiangsu Province has achieved a bumper harvest of summer-ripening crops. The output of wheat, barley and naked barley totals more than 390 million jin, topping last year's record by some 140 million jin. The production of rapeseed was 10 million jin, double last year's output. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 2 Jul 82 OW]

FUNING COUNTY WHEAT PRODUCTION--Peasants in Jiangsu's Funing County reaped a bumper wheat harvest this summer with total output increasing by some 60 million jin over that of last year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 5 Jul 82 OW]

SUMMER CROPS--Bumper harvests of summer crops have been reported in various localities of Jiangsu Province. Output of over 100 million jin of summer grain crops has been reported in Shuyang, Yixing and Wujin counties. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 6 Jul 82 OW]

CSO: 4007/490

SEED COMPANIES IN IRRIGATION DISTRICT IMPROVE WORK

Beijing RENMIN RIBAO in Chinese 8 May 82 p 1

[Article: "Counties in Ningxia's Irrigation District Vigorously Supply Seeds for Spring Sowing"]

[Text] The seed companies in 11 counties in Ningxia's irrigation district have vigorously improved seed supply work, and this year there has appeared a gratifying scene with regard to spring-sown crop seeds in which the seeds have been marketed quickly and their sales volume has grown. Now, of the seeds of improved varieties of spring wheat that the seed companies have in stock to satisfy needs, 7.4 million jin have been sold, over 10 percent of the wheat seeds required to be sold in the irrigation area.

This year the seed companies have set up additional seed supply points and seed distribution points in remote communes and production teams and in communes, production teams, and market towns where the population is concentrated, in order to supply close at hand improved seed varieties to the peasants.

In the past, before the peasants bought seeds they had to first go to grain depots and buy grain and then, with evidence of their grain purchase, they could buy seeds from seed companies.

This involved many procedures and was inconvenient. This year the system has been changed to one in which the masses directly exchange their grain for improved seed varieties and the price difference is offset by the equivalent in grain, thereby simplifying procedures. At the same time, in order to deal with the special feature that, after the responsibility system is put into effect, the peasant households purchase a smaller amount of seeds and sell more things at retail, with the concurrence of grain departments, a portion of the seeds is sold at a negotiated price.

9727
CSO: 4007/417

NEW GRAIN MANAGEMENT SYSTEM ANALYZED

Xian SHAANXI RIBAO in Chinese 9 May 82 p 1

[Article: "Major Restructuring of Grain Management System. Beginning With This Year's Summer Harvest All Jurisdictions in the Province Will Begin a New Method Guaranteed for 3 years of Assignment of Sole Responsibility for State Grain Procurement, Marketing, Allocations and Transfers"]

[Text] Beginning with this summer's harvest, Shaanxi Province will institute assignment of sole responsibility for state grain procurement, marketing, allocations and transfers in a new method guaranteed for 3 years. The provincial government has asked all jurisdictions to take firmly in hand the implementation of this task, making sure that prior to the summer harvest assignment of sole responsibility for state grain procurement quotas is gradually implemented in production teams, work teams, and commune member households.

This major restructuring of the grain management system was decided on by the State Council. As compared with the former state procurement base figures, which were guaranteed to remain unchanged for several years, and procurement in excess of quotas guaranteed for a single year, this method is more advantageous in bringing into play both central government and local govenrment initiative, in promoting and enlivening grain dealings, and in improving administration and management of grain enterprises for greater economic benefits. It is also advantageous in stabilizing peasant burdens, and is both suited to and advances reform of the agricultural structure. Particularly, once assignment of responsibility for state grain procurement quotas has been instituted in production teams and commune member households and linked to assignment of responsibility for output, not only will the peasant masses know how much grain they are responsible for producing in any given year, but they will also know how much grain they will be responsible for surrendering to the state in any given year plus 2 years thereafter to bring about "knowing 3 years in advance" state grain procurement quotas.

In accordance with the management method approved by the State Council, figures for assignment of grain responsibilities in all jurisdictions will be based on actual state grain procurement, marketing, transfers and allocations during the previous several years in combination with changes during the next 3 years in the development of grain production, state procurement and marketing as determined through discussion and verification. Figures for assignment of responsibility for state procurement include state procurement base figures and excess procurement quotas. When production teams sign contract agreements with commune members, they should include within the scope of agreements output, variety, and state procurement base figures, and excess procurement quotas. Figures for assignment of marketing responsibilities include non-agricultural and agricultural marketing as well as grain formerly expended for special purposes by provinces. Figures for assignment of responsibility for inbound grain include regular inbound movement and grain expended by provinces for special purposes. Figures for assignment of responsibility for outbound grain are outbound figures from which grain for special use has been deducted. During the period of assigned responsibility, all grain remaining as a result of much procurement and fewer sales is to revert to each jurisdiction for its disposition. Should natural disasters or other reasons result in a grain deficit, solution will also be up to local jurisdictions themselves. Years of major calamities requiring provincial transfers of grain are to be subsequently repaid in full.

This year will be the first one for institution of assignment of grain responsibility. How equitably all criteria are implemented will be important for fulfillment of assigned grain quotas for the next several years and for a balance between supply and demand of grain in Shaanxi Province. Now the summer harvest is at hand, and the provincial government asks that all jurisdictions actively and painstakingly take firmly in hand the assignment of responsibility for grain quotas, particularly verification of state procurement quotas. With this as a starting point, after several years effort, Shaanxi Province's grain commodity rate will see fairly rapid increase to make a greater contribution to the building of the four modernizations.

9432
CSO: 4007/438

BRIEFS

SUMMER GRAIN PROCUREMENT--Weinan Prefecture, a major summer grain-producing area in Shaanxi Province, has up to 7 July procured 413 million jin of summer grain, overfulfilling 1982's summer grain procurement quota. The procurement work took only 20 days. [Xian SHAANXI RIBAO in Chinese 8 Jul 82 p 1]

CSO: 4007/490

SHANDONG

TECHNIQUES FOR FINDING, TESTING, USING DESALINIZED GROUND WATER EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 1982 p 2

[Article by Soil Fertility Institute, Shandong Provincial Academy of Agricultural Sciences: "Need To Exploit Shallow Depth Desalinized Ground Water"]

[Text] By shallow depth desalinized ground water is meant the layer of fresh water with low mineralization at a general 2 to 4 grams per liter found in a "desalinized layer" atop the highly mineralized underground saline water belt in alkaline-saline areas along the seacoast. By and large natural precipitation and human diversion of water for irrigation causes the highly mineralized water atop the highly mineralized underground saline water belt to undergo change and differentiation, gradually becoming fresh water, which can be substantially used in agriculture or as potable water for people and animals. This is a source of fresh water in saline-alkaline coastal areas that is of great utility.

The major means of locating freshwater and a shallow depth underground are two, as follow: One is use of the geobotany of the landscape (i.e., the distribution of plants on the surface) to analyze and determine the existence and extent of distribution of underground freshwater in saline-alkaline areas. For example, in areas close to the sea in Shandong Province, the ecological system is composed of plants that grow in saline soil, chiefly Huangxu [7806 3291], Suaeda maritima, and Chinese tamarisk, showing that the soil has a salt content above 0.5 percent and that a "freshwater layer" of fairly low mineralization has not yet formed atop the underground salty water belt. On the delta where the Huang He enters the sea, plants are mostly those of a natural oases ecological system, largely plants such as cogongrass [Imperata cylindrica], small reeds, and natural willow forests which show the degree of soil salinization and alkalinization to be slight and that rather good "desalinated water" water exists below ground. In state farm and land reclamation areas, the geobotanical landscpe is largely a farm; and plant ecological system composed of various kinds of farm crops. This shows a soil desalinization below 0.3 percent, and that atop the underground saline water belt a fairly good "freshwater layer" has formed. The geobotanical landscape is the basis for seeking underground freshwater at a shallow depth in a macroregion. The second means is comprehensive analysis and judgment based on topography, landforms, and soil texture. Generally speaking, on both sides of running streams, in old riverbeds, in lowlying land, and in agricultural irrigation zones, desalinization has occurred, the freshwater at a shallow depth being relatively concentrated and its degree of purity being rather good. In sections having fairly clayey soil, the extent of desalinization of underground desalinized water at a shallow depth is better than in areas of lightly textured medium soils and pulverized gravel soils. Results of prospecting done in clayey soil and pulverized gravel soil 500 meters distant from each other showed that in the clayey soil sections, the extent of mineralization of underground freshwater at shallow depth was 0.7 grams per liter, while the extent of mineralization of underground freshwater at shallow depth in pulverized gravel sections was 5 grams per liter. In searching for desalinized underground water at a shallow depth within a small area, it is necessary to watch distribution of soils of different textures.

Desalinated underground freshwater at shallow depth is characterized in the following ways: wide distribution in geographic space, distribution not very thick in vertical space, and buried at a shallow depth beneath the surface. In exploiting underground freshwater at a shallow depth, it is necessary, first of all, to determine the point at which the surface of the "freshwater layer" meets the surface of the excessively saline water layer. After taking water samples for testing to determine whether water quality is suitable for exploitation, hydraulic wells are sunk into the "freshwater layer" above the intersecting surface, and the water is then raised. When installing hydraulic pumps, one should be careful not to push pipes through the "freshwater layer" so as not to raise saline water to the surface. Three or four hydraulic wells per mu of farmland may be installed, and enough water may be raised from them daily to provide soil moisture to about 1 mu of land.

Before underground desalinized water at a shallow depth may be exploited for use, it must be evaluated for quality. Evaluation usually consists only of measuring salt content, with composition of the salt being measured when necessary. If the magnesium ion content of the water is high, it may cause diarrhea and should not be used as drinking water by people or livestock. Water quality standards for water used to irrigate plants usually require a salt content of less than 2 grams per liter. When fighting drought in order to sow crops, this standard may be liberalized somewhat. Results of experiments in the use of freshwater of different degrees of desalinization on the growth of wheat sprouts and seedlings has shown that when the salt content of desalinized water is between 3 and 4 grams per liter, it has virtually no adverse effect on the growth of wheat sprouts or seedlings. When salt content of desalinized water was 5 to 6 grams per liter, it seriously restricted growth of wheat sprouts and seedlings; however, if a way can be found to mix in a proper quantity of freshwater, such water may also be used. Where chemical testing conditions permit, the method used for evaluating water quality may be either the drying method or the electrical conductance measuring method. When chemical testing cannot be done, test methods using growth of seed sprouts and seedlings may be used. If culturing in desalinized water brings similar sprout and seedling growth as when distilled water or drinking water is used for culturing, this shows quality to be very good and it may be used. If seeds do not sprout or if they sprout but do not elongate, this shows the salt content of the water to be too high, making it unuseable.

Methods for finding and using formations of underground desalinized water at a shallow depth in saline-alkaline prefectures along the seacoast are also of reference value for the inland saline-alkaline prefectures of Heze, Liaocheng, and Dezhou.

9432
CSO: 4007/457

STEPPING UP OF FLOOD PREVENTION MEASURES URGED

Jinan DAZHONG RIBAO in Chinese 16 May 82 p 1

[Article: "Early Preparations Against Flood Season by All Jurisdictions Is Requirement From Flood Season Prevention Conference Convened by Provincial Government"]

[Text] The Flood Season Prevention Conference recently convened by the provincial government required all jurisdictions to make active preparations against the flood season even while continuing to fight drought.

The conference noted that despite the current drought in the province, the flood season is about to arrive. According to forecasts, during this year's flood season, rainfall in the lower reaches of the Huang He will be somewhat greater than normal, and quite possibly southwestern Shandong and northern Shandong prefectures may experience unaccustomed amounts of water. In considering this year's flood season, one should stick to "better believe it will happen rather than believe that it won't." Preparations should be made against the eventuality that it will rain, and preparations should be made against the eventuality that the rains will be large, making good preparations for the worst while hoping for the best and being prepared just in case.

Overall requirements resulting from the conference's study of this year's flood season prevention tasks are as follows: Adherence to the principle that "prevention is the key, prevention being better than salvaging," with implementation of centralized leadership, level by level responsibilities, and attention given to mental, organizational, project, and material preparations, and to prudent management and bolstering of defenses so that, within existing project standards, there will be no breaking of reservoir dams or bursting of river dikes or waterlogging turning into a disaster. Countermeasures have to be readied against abnormal flooding, every available means used to assure safety during the flood season and to reduce damage.

In order to fulfill this year's flood season tasks, the conference required each jurisdiction to take firmly in hand the organization of inspections in advance of the flood season, and to gradually study and solve problems uncovered in the source of inspections. Hidden faults at the base of reservoir projects should be handled first. All dike openings, temporary dams, and high channels for water diversion should be handled within a limited period of time. Plains areas should put their drainage systems in order to assure smooth drainage. Along the shores of the Huang He, production dikes and obstacles to the flow of floodwaters in the river should be cleared away in accordance with regulations. Leadership should be strengthened and sufficient workforces transferred for projects for getting through the flood season that have been layed out. For hazardous projects that cannot be taken care of for the time being, emergency measures for safe passage through the flood season should be conscientiously instituted and guarding strictly done to insure safety. Cases of destruction of water conservancy projects must be strictly dealt with to bring about a resolute halt. For all Huang He, inland river, and reservoir water conservancy projects, a corps to guard against the flood season should be organized, its duties clearly stipulated, good training given it, and sufficient materials to protect against the flood season should be made ready. Urban flood prevention work should be strengthened. Streams for the discharge of urban flood waters should not be filled in, river shallows should not be occupied; there should be no haphazard digging or building done, garbage dumped, or wastes discharged that impede the safe movement of flood waters.

9432
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POINTERS GIVEN FOR GROWING OF STURDY RICE SEEDLINGS

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 8, 1982 p 7

[Article by Jin Liufu [6855 3966 4395]: "Technique For Breeding Sturdy Rice Seedlings with Tillers"]

[Text] The breeding of sturdy seedlings with tillers is an important way in which to increase rich output. Because a great amount of organic nutrients are stored within the bodies of sturdy seedlings with tillers, roots develop rapidly following planting, the number of new roots averaging 10.7 to 21.3 more in number than for seedlings with tillers. Greening up also occurs faster than for seedlings without tillers, growth of new leaves on individual plants averaging 2.8 to 8.3 more in number. Where the salt content of water in fields runs to 0.3 to 0.4 percent, the survival rate is four to five times higher. Tillers develop rapidly, the effective tillers being numerous and sturdy, with panicles numbering between 60,000 and 90,000 per mu, and ripening occuring between 2 and 5 days early. Yields increase by about a general 18 percent as compared with seedlings lacking tillers.

Mastery of four techniques is required in growing sturdy rice seedlings with tillers, as follows:

1. Fertility of seedling fields. Best is selection for use as seedling fields those plots that contain 1.5 to 2.0 percent organic material, 10 to 20 ppm quick acting nitrogen, and upwards of 10 ppm of quick acting phosphate. As base fertilizer, between 5,000 and 8,000 jin per mu of thoroughly composted organic fertilizer, 20 to 30 jin of ammonium sulfate, and 50 to 70 jin of superphosphate should be applied. Depending on seedling color and growth during the seedling growth period, additional dressing with 30 to 40 jin of ammonium sulfate should be given.

2. Small quantity of seeds grown. Experiments show that when seedling fields are sown at the rate of 50 jin per mu, the plant tillering rate is 74 percent. When 75 jin per mu are sown, the plant tillering rate is 54 percent. When 100 jin per mu are sown, the plant tillering rate is 40 percent, and when 120 jin per mu are sown, the plant tillering rate is less than 10 percent. Furthermore, the greater the quantity of seeds sown, the higher the tiller death rate after the seedlings grow. Consequently, a suitably small quantity of seeds should be sown on seedling fields. For early seedlings, between

70 and 100 jin per mu should be sown; for seedling propagation in moist conditions, between 50 and 70 jin per mu should be sown.

3. The layer of water should be kept shallow during the tillering period. At the four leaf stage, seedlings begin to tiller. By withholding water during this stage, seedling roots go down fairly deep and tillering is controlled; seedlings become hard to pull up. If the layer of water is overly deep during this time, the seedlings are prone to development of black root and seedling death. Experiments show that after the three leaf stage for seedlings, water should be maintained at a depth of 0.5 cun and no more than 1 cun. Fields should be regularly aired at night to promote tillering and growth of sturdy seedlings.

4. Use of chemical herbicides to eliminate weeds. Weeds compete with seedlings for sunlight and fertilizer and seriously impede seedling tillering. Chemical herbicides may be used to eliminate them. The specific method used is as follows: 1) Seedling field preparation in advance of sowing. Between 6 and 7 days in advance of sowing, 25 percent nitrofen at the rate of 1 to 1.2 jin per 40 to 50 jin of water should be applied. After the seedling bed surface has been sprayed, a layer of water should be maintained on it for 7 to 8 days. 2) Spraying of herbicide during the seedling stage. Between the 1 and 2 leaf per seedling stage, 20 percent propanil emulsion at the rate of 2 to 2.5 jin per 30 to 40 jin of water should be sprayed on leaves. In seedling fields heavily infested with sanlengcao [0005 4462 5430] and niumaocao [3662 3029 5430], misting may be done with 70 percent dimethyl-tetrachloride. Alternatively the two aforementioned herbicides may be mixed together and applied. When spraying leaf surfaces, a warm wind-free day should be selected. Fields should be aired for 1 day before and after spraying after which water should be maintained in the fields to a depth of 1.5 cun for 6 to 7 days to drown the weeds, after which normal irrigation may be recommenced.

9432
CSO: 4007/446

SPECIFICATIONS PROVIDED FOR NEW COTTON VARIETY

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82 pp 27-28

[Article: Briefing on Cotton Variety Zhongmiansuo No 1"]

[Text] (1) Variety Origin. Zhongmiansuo No 10 cotton (formerly called Zhong 509] was bred by the Cotton Institute of the Chinese Academy of Agricultural Sciences in 1975 from the continuous selective breeding of 23 selected long fiber plants of cotton variety Shanmian No 1 followed by selection of natural mutants from the 23 strains.

(2) Characteristics and Properties. Plant heights for this variety are about 60 centimeters; plants are compact and tubular in shape. Fruiting branches stick upward; distances between nodes are short, and secondary fruiting branches produce large bolls. Zhongmiansuo No 11's main stem is fairly small; leaves are fairly thin; leaf color is light; individual leaves at the tops of plants stick straight up, and phototaxis is strong. Bolls are vently spaced at the top, middle, and bottom of plants; boll formation is strong; bolls are fairly concentrated, and the dropping rate for squares and bolls is low. Bolls are ovular, and average weight of individual bolls is about 5.5 grams; ginning outrun is about 35 percent; and seed numbers is 10-11 grams. This variety prefers soil with fairly good fertility and water conditions; it does not tolerate infertility; does not tolerate waterlogging; and will not withstand drought. Yet another major characteristic of Zhongmiansuo No 10 is early ripening, its total growing season being only about 114 days. When sown before 20 May to 5 June in south central Shandong and southwestern Shandong prefectures, its before frost cotton rate was better than 80 percent. Naturally, owing to differences in climatic and cultivating conditions in different places, the variety's growing season differs. For example, during the past 2 years when sown on 8 June in Linyi County, it had a total growing season of from 111-119 days, with more than 80 percent of its cotton being produced before frost. When sown on 5 June in Liaocheng County, its total growing season was 122 days. Planted on 6 June in Linqing County, its total growing season was 129 days and it produced 51.06 percent of its cotton before frost. Sown in Huimin County on 12 June, its total growing season was 123 days and it produced 29.15 percent of its cotton before frost.

(3) Yields. Experiments conducted at 12 sites in a farming system reform experimental area in the Huang He basin in 1980 produced yields of ginned cotton averaging 138 jin per mu, and yields averaging 114.52 jin per mu in 1981 to take first place in average yields per unit of area. Results of area testing of early ripening varieties in Shandong Province in 1981 were as follows: At four experimental sites in central and southwestern Shandong, ginned cotton yields averaged 136.4 jin per mu, 15 percent more than for Luzao No 1. At two experimental sites in northern Shandong, ginned cotton yields averaged 120.9 jin per mu, 12.2 percent less than for Luzao No 1. At four experimental sites in northwestern Shandong, ginned cotton yields averaged 126.3 jin per mu, 3.1 percent less than for Luzao No 1. At two experimental sites in Linyi and Liaocheng counties, when Zhongmiansuo No 10 was sown on 8 June and 5 June, ginned cotton yields averaged 108.3 and 159.2 jin per mu respectively, 41.4 percent and 5 percent more than for Lukang No 1.

(4) Fiber Quality. Measurements made in 1979 by the Beijing Municipal Fiber Inspection Institute showed quality standards for 32 count yarn in test spinning to be 2,700 fen [0433 ? pick]. Quality standards for test spinning of 32 count yarn at the Northern He'nan Cottin Spinning Plant in He'nan Province in 1980 showed a quality standard of 2,700 fen. Test spinning of 42 count yarn at the Jinan National Cotton Plant No 4 in 1981 showed a quality standard of 2,820 fen. Results of testing of physical properties in 1981 showed most fibers to have a length of 30.12 millimeters, the tensile strength of individual fibers to be 3.83 grams, a fineness of 6,793 meters per gram, and a breaking length of 26,190 kilometers (sic).

9432
CSO: 4007/445

CORN, WHEAT INTERCROPPING TECHNIQUES EXPLAINED

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82 p 22

[Article by Mao Guizhang [3029 6311 4545], Yantai Prefecture Agriculture Bureau: "How To Arrive at the Time for Intercropping Corn"]

[Text] Proper timing of the sowing of corn when intercropping with wheat not only bears on whether or not summer corn yields will be high, but also bears on whether the following crop of wheat can be sown on time. It is necessary to adapt general methods to local situations and varieties and, in a spirit of concurrent concern about both the wheat and the corn, to arrive at a time for the intercropping of corn.

In Yantai Prefecture, the time for sowing corn for intercropping with wheat is arrived at on the basis of the factors given below.

One is to arrive at the intercropping period for corn by using the right time for the sowing of wheat to extrapolate forward the harvest time for the corn. For example, the right time for sowing the wheat is between 20 September and 5 October so the wheat will get between 650 to 700°C cumulative temperature before the onset of winter, and so the wheat seedlings will produce numerous tillers and sturdy seedlings to help it safely over winter. Extrapolating ahead from 15 September to get the time for intercropping means that corn varieties with a growing season of 120 and 100 days should be intercropped in Yantai Prefecture on 15 May and 8 June respectively.

Second is extrapolating ahead the time for intercropping corn by using the initial period of corn ear differentiation as the time to harvest wheat. During the period of common growth for wheat and intercropped corn, competition exists to obtain water, fertilizer, and light. When the corn enters the stage of ear differentiation, in particular, the competition between the two crops for fertilizer and water becomes more pronounced, and if there is a lack of water or sunlight, differentiation of the young ears may be impaired. Corn varieties with a growing season of 100 to 120 days have an initial ear differentiation period lasting 35 to 45 days. Consequently, the period of common growth for corn intercropped with wheat should not exceed this segment of time, i.e. the corn intercropping period should not exceed the initial ear differentiation stage.

Third, strength should be put to use and weaknesses avoided in weather conditions to turn disadvantages into advantages. Principal weather factors limiting corn production are the following: 1) Insufficient cumulative temperatures during the growing stage. Corn varieties with a 100-120 day growing season require cumulative temperatures totaling from 2,300 to 2,800°C over the growing season, but summer corn often does not get the full amount. 2) Failure of the period of naturally high temperatures to coincide with the period of high temperatures needed for corn to develop. During the period of flowering, pollination, in-the-milk, and kernel setting, average daily temperatures of 24-26°C and from 20-24°C are required. If they are too high or too low, corn pollination may be impaired and kernels small. 3) Waterlogging during sprouting and seedling stages. If within a period of 40 days after the corn has been planted a rainy season occurs in which the amount of precipitation is more than double that required by the young seedlings, sprout waterlogging and seedling waterlogging may occur. Thus, when figuring the intercropping season for corn, this factor has to be taken into consideration so as to take advantage of strengths and avoid weaknesses of the local climate and turn disadvantages into advantages.

On the basis of the overall balance of the foregoing conditions, Yantai Prefecture adapted general methods to local situations to use two intercropping periods and two intercropping methods. Huang County, Ye County, and some of the plains area of Zhaoyuan, where temperatures are rather high, summer waterlogging rather slight, and autumn cold comes rather late, used an ordinary intercropping method, by which is meant that at the time the wheat was sown, a distance of from 0.8 to 1 chi was left between rows for the intercropping of corn, and intercropping was done 15 to 20 days before the wheat was harvested (around 10 June). In the 12 counties and municipalities including Rongcheng, Wendeng, Rushan, and Haiyang, which are low-lying areas along the sea or along rivers, where temperatures tend to be low, summer waterlogging severe, and autumn cold arrives early, "2-4 plot" intercropping was used. By this is meant that wheat was sown in 4 chi square plots with plots 2 chi square being left next to them. Between 35 to 45 days before harvesting of the wheat, (around 10 May) two and a half rows of summer corn were intercropped. Inasmuch as the time of intercropping and intercropping methods suited local natural conditions, plus improvements in other methods, increases in corn yields were greatly advanced.

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NEW CORN VARIETY CHARACTERISTICS, SEED PRODUCTION DESCRIBED

Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 9, 5 May 82 pp 24-25

[Article by Cui Guangdian [1508 0342 7193] and Cui Qingyun [1508 1987 0061], Linyi Prefecture Seed Station: "Corn Variety, Shendan No 3"]

[Text] Corn variety Shendan No 3 was bred by the Shenyang Municipal Agricultural Institute in Liaoning Province in 1974 using inbred line "Zi 330" as the female parent and inbred line "Baihe 43" as the male parent to produce a single hybrid variety. In 1977, following examination and approval by the Liaoning Provincial Crop Variety Examination and Approval Committee, it was promoted to cultivation. In 1980 it was introduced into Linyi Prefecture for test planting. A brief description of this variety is given below.

Characteristics and properties: Plant height of 250-270 centimeters; ears located at around 80 to 90 centimeters. Bud sheaths on young seedlings are purplish red in color; leaves are slightly rippled; leaves total 19 in number; and plant shape is compact. Ears are tubular in shape and grow 20-24 centimeters in length. Kernels are yellowish white, are of the dent type, and ears contain 46 kernels in 18 rows, the per 1000 weight of kernels being about 400 grams, individual ears weighing about 300 grams. The growing season, when planted in spring, is about 130 days; when planted in summer, it is about 110 days. It is fairly resistant to large and small leaf spot, and to head smut. It is slightly susceptible to green withering.

Yields. In experiments conducted at a total of 10 test sites in 4 districts of Shenyang Municipality and in Xinmin and Liaozhong counties in 1975, yields averaged 1,322 jin per mu, 29.7 percent more than from control variety Danyu No 6. In demonstration experiments conducted at Dazhuxia Production Brigade in Chahe Commune, Linyi County in 1980, Shendan No 3 yields were 1,352.09 jin per mu, 13.15 percent more than for control variety Danyu No 6, and 11.55 percent higher than for Lusan No 9.

Essentials of farming and seed production. Shendan No 3 has moderate fertility and water requirements. It is suited for growing in poor soils and in oily sandy soils for moderate fertility. When grown where fertility and water conditions are bad and the soil is fairly poor, either wide row cultivation or intercropping with wheat produces definite increase in yields.

Planting density should be 2,800-3,200 stalks per mu (more produces susceptibility to green withering). During the period of vegetative growth, care should be taken to prevent and control corn borers and green withering. For seed production, when the female parent has three leaves on a stalk, the male parent should be sown, the ratio of rows being 2:4 or 2:6. When producing seeds through backcrossing, both female and male parents may be sown at the same time, or the male parent seeds may be dipped in bud stimulant and sown together with the female parent, row ratio being 2:6 or 2:8.

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BRIEFS

NEW ANTIDROUGHT METHOD LIMNED--Dongdianhou Production Brigade in Longquan Commune, Mouping County took advantage of the large number of ravines and streams locally to dig ditches in the bottoms of streams, wall them with masonry, and raise water. This was an antidrought project for raising the underflow to the surface, which effectively solved problems in fighting drought during seasons when the streams dried up. The masses called them "reclining wells." The specific way of making reclining wells is as follows: Dig a 20 meter long, 5 meter wide, 3 meter deep corridor across the river bed and then wall the corridor with rocks, adding stone slabs or concrete slabs across the top. Atop the concrete slab add water filtering sand and stone to a depth of about 1 meter to produce a well that looks at though it is reclining on its side. Then wall up a verticle shaft from which water can be drawn at one or both ends of the reclining well, and use a water pump to pump the accumulated water in the reclining well to the surface to irrigate the fields. Tests show such a well can raise more than 100 cubic meters of water per hour. The infiltration section of such a reclining well is large. Both the up and down stream undercurrent and the upstream open current infiltrate the well. Construction is simple; investment is economical; and adaptability is wide. All that is needed is a large or small stream with a sandy layer, and the construction may be done in either a new or old watercourse. Moreover, since such a reclining well for temporary use in fighting drought continues to "recline" at the bottom of the stream, it does not impair the movement of flood waters through the watercourse, so it can be a permanent project used in case of drought. [Text] [Shandong NONGYE ZHISHI [AGRICULTURAL KNOWLEDGE] in Chinese No 8, 1982] 9432

CSO: 4007/446

SHANGHAI SUBURBS UTILIZE SEED CAKES FOR FODDER

Beijing RENMIN RIBAO in Chinese 8 May 82 p 1

[Article: "Shanghai Suburbs Utilize Cottonseed Cakes and Vegetable Rapeseed Cakes for Fodder"]

[Text] The suburbs of Shanghai Municipality has opened up a new source of protein fodder by taking cottonseed cakes and rapeseed cakes (hereafter shortened to the "two cakes"), which had previously been directly used to fertilize fields, and remaking them into fodder, and then using the dung of domestic animals and fowls to fertilize the fields. This reform has promoted the production of pigs, poultry, eggs, and milk. According to statistics, last year the entire suburban area used about 93.5 million jin of the "two cakes" as fodder, accounting for 42 percent of Shanghai's total output of the "two cakes."

In the past the reason peasants did not use the two cakes for fodder, besides force of habit, was that the cakes contained toxic substances. Now, the "cakes" to be used for fodder are first detoxified and, after being processed into composite fodder, are supplied to the collective fodder grounds and to the commune members.

The utilization of the "two cakes," which are rich in protein, for fodder saves grain, raises the nutritional value of composite fodder, and lowers the cost of raising domestic animals and fowl, thereby improving economic results. In the past 3 years, Silian Commune in Songjiang County has used the "two cakes" to feed pigs, a practice which has greatly raised the level of its pig-raising production. Last year, compared with the period before 1979, when grain was used for fodder, the number of live pigs removed from inventory rose by 34.5 percent, and the average annual surplus in collective pig raising increased by over 48,000 yuan. The poultry farms of Fengxian County utilized the "two cakes" in the scientifically mixed feeding of 4,389 laying hens, and the annual total output of eggs was 117,300 jin, an annual average of 26.7 jin of eggs per chicken with a net income of 5 yuan 4 jiao 1 fen.

Editor's postscript: Cottonseed cakes and rapeseed cakes are top-quality fodder rich in protein, and the country's annual output of the cakes is about 7 billion jin. According to measurements and calculations, if the cakes are used for fodder, their effectiveness in feeding domestic animals and poultry is better than that of the same quantity of grain.

For many years, some localities have not paid attention to opening up this source of fodder and have directly made these cakes into fertilizer. This is a very big waste. Utilization of the cakes as fodder is advantageous for the development of domestic animals and poultry, and the dung of domestic animals and poultry fed with these cakes is a top-quality organic fertilizer. By making this change, the localities will be able to save a large amount of fodder-grain, thus killing several birds with one stone. This course of action by the suburbs of Shanghai Municipality is worth advocating.

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PROBLEMS WITH AGRICULTURAL RESPONSIBILITY SYSTEMS AIRED

Tianjin TIANJIN RIBAO in Chinese 7 May 82 p 3

[Article by Wang Longsheng [3769 7893 3932]: "How To Further Perfect Tianjin's Agricultural Production Responsibility System"]

[Text] Following the Third Plenary Session of the 11th Party Central Committee, Tianjin's agricultural production responsibility systems steadily developed, going from a small number of communes and brigades to a large number of communes and brigades, from some operations to all operations in every industry, and from a single form not linked to output to diverse forms mostly linked to output. As of the end of March this year, 16,341 of the 17,635 basic accounting units in the city's 12 suburbs and counties had set up various forms of production responsibility systems. This amounts to 92 percent of the total number of basic accounting units in which responsibility systems linked to output greatly increased in number as compared with last year. To a very large extent they surmounted egalitarianism in the calculation of compensation for work, and effectively aroused the enthusiasm for production of the masses of commune members to promote development of production. Nevertheless, some problems also exist. Principal of these are the following: Some commune brigades apportion the fixing of output quotas for responsibility fields on the basis of the average number of people. This means that households that do not have a large workforce, "cannot eat," while households with a large workforce "cannot get enough to eat." In some communes and brigades the assigned responsibility fields are overly scattered making for difficulties in collective and unified farming. Irrigation water is also not easy for the commune member masses to manage. In some cases the relationship between centralization and the fixing of responsibilities has not been handled well, making it difficult to make the most of the superiority of the collective economy and to arouse the enthusiasm of individual commune members, or even causing damage to collectively own property. In some communes and brigades the relationship among the welfare of the state, of the collective, and of individuals has not been handled correctly. In distributions, individual commune members tend to be favored while insufficient attention is given to collective withholdings for public accumulations. Still some others practice the contracting of jobs to be done within a certain period of time and calculation of compensation on the basis of fixed quotas with no fixing of work quotas or standards for fixing quotas. In actual fact, "during the busy season, jobs are contracted to be done within a specific period of time, and during the slack season a big show of action is made," which is very bad for arousing the enthusiasm for production of the masses of commune members. Further perfection of the city's agricultural production responsibility systems must be done in the spirit of the "Minutes of the National Rural Work Conference" recently forwarded and published by the CCP Central Committee.

1. Among the Various Kinds of Contract Responsibility Systems, First the Contract Distribution of Land Must Be Equitable. Places practicing the fixing of output quotas on an individual household basis and the contracting of work tasks to individual households should encourage proportional contracting for land in accordance with production requirements on the basis of workforces or human labor. Inasmuch as workforce strength and skills differ, the quantity of land contracted may also differ. State staff and employees and cadres should not contract land. In order that land contracted for by commune members will be in one continuous strip, insofar as possible, and not overly scattered, depending on soil quality and different grades, output quota criteria for various parcels of land should be individually evaluated, a mix of good and bad land made, and an average output quota set for the mixture. The collective may keep a small quantity of land in reserve for contracting out to households with large workforces and to redistribute it when population changes occur.

2. Good Solution to the Relationship Between Centralization and Assignment of Responsibilities in Responsibility Systems. In all forms of responsibility systems there are problems in relationships between centralization and assignment of responsibilities. Centralization is for the purpose of making the most of the superiority of the collective economy, while assignment of responsibilities is for the better arousal of the enthusiasm for production of commune members. The objective of both is to promote steady development of production. Ours is a socialist country in which agriculture must keep to the road of socialist collectivization. Consequently the establishment of various forms of responsibility systems must help consolidate and strengthen the collective economy. Any way of doing things that weakens or divides up the collective economy is wrong. Production measures and production projects suited to cooperative production that individual commune member families or households cannot handle by themselves must be centrally managed by collectives, while production measures or projects that commune members can conveniently handle may be contracted to individuals to look after or run. What should be centrally managed and what should be contracted out in any given production brigade should be decided on the basis of realities through the adaptation of general methods to specific situations and specific matters, i.e., on the basis of the levels of development of productivity in the brigade, and on the basis of the management levels of cadres. Whatever should be centralized is then centralized, and whatever should be parceled out is then parceled out. Under most circumstances, essentially there should be "six centralizations," i.e., centralized planting plans, centralized drainage and irrigation, centralized management and use of large machines, centralized organization to eradicate and withstand natural disasters, centralized planning and organization of farmland capital construction, and centralized running of production projects and collective welfare endeavors suited to collective operation. Of the "six centralizations," centralized planning is the nucleus.

Practice has demonstrated that in the raising and use of large livestock animals, a combination of nurture and use is best, and usually three ways of doing this are used. One is care and use centralized in the collective, with systems of personal responsibility established for personnel who care for and use the animals, expenses being paid by the collective or through equal sharing by commune members. Second is collective ownership to preserve capital and value with specialized households caring for the animals, annual withholdings of depreciation expenses being done, the animals being used by a number of households with the households sharing expenses. Positively no "boarding of the animals with different peasant families" is to be allowed. Third is in brigades where livestock animals are fairly scarce and cadre levels are low when brigades are unable to centralize. In such cases, livestock animals are turned over to households at a reasonable price, the funds obtained being deposited in a bank or used to purchase other means of production. When the price set is overly low, it should be corrected inasmuch as this is a disguised way of dividing up collective property. Today, in many communes and brigades where land is scant relative to population, after livestock animals have been turned over to households at a price, the number of livestock animals greatly increases and hay and fodder requirements become very large, while full use cannot be made of the livestock, and thus economic benefits derived are not good. This requires further study for solution.

3. Conscientious Handling of the Relationship Among State, Collective, and Individual Advantages. "Three concurrent concerns" is an important principle in socialist countries, and how well this is done bears on development of national construction, the consolidation and strengthening of the collective economy, and bringing into play the enthusiasm for socialism of individuals. How can it be handled well? On the basis of the experience of some communes and brigades, three problems have to be resolved. First is improvement in the understanding of cadres and of the masses of the relationship between withholdings and accumulations and the consolidation and strengthening of the collective economy, overcoming the mistaken notion among some grassroots level cadres that withholdings and accumulations are useless. On this point, it should be repeatedly explained that centralized administration with the contracting of work tasks to households does not mean the division of fields to be worked alone. Second is solution to the notion among some cadres of "no withholdings from agriculture, but collections from sideline occupations. They must be made to understand that industrial sideline occupations are subject to the effects of industrial readjustment and that earnings are by no means dependable. If there are no withholdings for accumulation from agricultural income, when income from industrial sideline occupations cannot be counted on, and finally at year's end everything is divided up and picked clean, inevitably the collective economy would be weakened. Third is the need to conscientiously figure up two accounts. One is the grain account, i.e., grain purchased by the state, grain to take care of the families of martyrs and military personnel and of the households enjoying the five guarantees [children and infirm old persons who are guaranteed food, clothing, medical care, housing, and burial expenses by the people's communes], grain for use in production etc. The second is the cash account, i.e., the income, expenditure, and accumulation account for collective operations. After this

has been done, the amount of funds to be withheld should be fairly set on the basis of the difference between receipts and expenditures and party distribution policies, and on the basis of comparison of the previous year's gross income and accumulation levels. Last year Yuelong Commune in Ninghe County had an overly low accumulation level, so this year cadres and masses were organized for conscientious figuring of two accounts, and commune accumulations became 2.3 times what they had been in 1981.

4. Formulation of labor quotas to solve egalitarianism in distributions. Statistics show that 6,182, or more than one-third of the more than 16,000 basic accounting units in Tianjin that practice production responsibility systems, have instituted calculation of compensation on the basis of fixed amounts of work to be done in a certain period of time. In an appreciable number of units among them an egalitarian situation continues to exist in the calculation of compensation for labor. In order to overcome this flaw, quota standards for farm work must be set so that most of the farm work assigned can be compensated at a fixed quota. Furthermore inspection of quality of farm work tasks performed should be done to insure quality. If the mass of commune members demand that this form be changed to a responsibility system in which output and calculation of remuneration are linked, all levels of leadership should act on the principle of tailored guidance to give active support and help bring it about.

One important link in the perfection of various responsibility systems is the signing by both sides of contract agreements. The contract agreements should clearly specify the rights and obligations that each side is to assume. Once the agreements have been signed, both sides must carry them out in full and guarantee to honor them. Neither party may take it upon himself to revise or void the agreements. Should disputes arise, they are to be mediated by the next higher echelon or be heard by a judicial department.

Effective work in setting up production team classes and doing a good job of ideological and political work is yet another important assurance for the further perfection of production responsibility systems. In some communes and production teams where production responsibility systems are not run well and problems of various kinds crop up, it is mostly because of weak and lax leadership. Either their own thinking is not straight and they provoke a "confrontation," or they abandon leadership, throw up their hands and do nothing, "letting things take their course." How can responsibility systems be straightened out in this way! Therefore, ideological indoctrination and reorganization of grassroots leadership teams must be carried out to increase the ideological and political consciousness of cadres, and to buttress their dedication to doing a good job of the collective economy and their sense of work responsibility. Additionally, indoctrination of commune members in the "three intense loves," and the "three concurrent concerns" should be done to raise their ideological and political consciousness and their obedience to discipline and respect for the law, so that immediate benefits will be subordinate to long-term benefits, and so that individual benefits will be subordinate to national and collective benefits. Only in this way can agricultural production responsibility systems gradually be perfected.

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BROADCAST RALLY URGES ON-TIME PLANTING ACCORDING TO PLAN

Hangzhou ZHEJIANG RIBAO in Chinese 11 May 82 p 1

[Article: "Use Every Available Means To Win Bumper Early Rice Harvest Was Demand of Provincial CCP Committee, and Provincial Government to All Jurisdictions at a Broacast Rally Convened Yesterday. Need for Immediate Survey of How Well Things Have Been Put Into Practice in Early Rice Growing Area, With Sufficient Planting According to Plan Done Wherever Sufficient Planting Has Not Been Done. Unauthorized Changes in Planting of Economic Crops To Be Resolutely Corrected"]

[Text] Yesterday the Zhejiang Provincial CCP Committee and Provincial People's Government convened a broadcast rally for further mobilization of the concerted strength of the broad masses of rural cadres and the masses of commune members throughout the province to do a good job of carefully harvesting and carefully threshing summer-harvested crops and planting a sufficient amount of early rice well, using every available means to win a bumper grain harvest for the year as a whole.

Deputy Provincial Governor Wu Zhiyuan [0702 2784 2268] chaired the broadcast rally. Provincial CCP Committee Secretary and Deputy Provincial Governor Chen Zuolin [7115 0155 7207] spoke at the rally.

The rally analyzed the agricultural production situation. It acknowledged that ever since the lunar new year, all levels of CCP committees and government have diligently carried out the spirit of the "Summary of the Minutes of the National Conference on Rural Work" and of the Provincial CCP Committee Work Conference, and have strengthened leadership of rural work. Thanks to the commune efforts of the broad masses of cadres and commune members plus fairly favorable weather conditions, the agricultural production situation is currently very good. A bumper harvest from summer-harvested crops is in prospect; early rice seedlings are sturdy; quality of early rice transplanting in green manure fields is also not bad; and field care has been taken firmly in hand. The production situation is also rather good for spring tea, spring silkworms, and live hogs. However, in order to fulfill this year's agricultural production quotas, and particularly in order to win a bumper early rice harvest, arduous efforts will still be required. The conference emphatically pointed out that the early rice crop links the past to the future. Not only are yields high, but they are also fairly consistent as well. Early rice output accounts for half the grain output for the year as a whole. Therefore, making sure of the early rice crop is an important key to realizing grain production quotas for the year as a whole. Experiences over the years have shown that once the early rice has been harvested, the initiative has been seized for grain production for the year as a whole. Otherwise, life is hard and a situation of apathy about the year as a whole may form. Right now numerous factors favor a bumper early rice harvest. Now is the important season for tending to green manure field breeding of early rice and making ready to transplant early rice into the fields from which summer crops have been harvested. The opportunity should not be missed; the time will not return. All levels of CCP committees and government must concentrate energies and earnestly strengthen leadership. The broad masses of rural grassroots cadres and commune masses must further act to do a good job of transplanting the early rice and of field care, using every available means to win a bumper early rice harvest.

The rally emphasized the current need to direct attention to the following several tasks:

First, continued attention to planting more early rice so that this year's early rice acreage will exceed last year's. Much work was done and definite achievements scored through implementation of the early rice growing area by all jurisdictions during the previous period, but they are still far short of plan requirements. All jurisdictions should immediately conduct a survey of how well early rice growing was carried out, and where insufficient rice was planted, and planting in accordance with plan should be done. Unauthorized changes in the growing of economic crops should be resolutely corrected. In addition, the masses should be stirred to tap the soil's potential to grow more early rice to the fullest extent possible.

Second is serious attention to the propagation of early rice seedlings. This year many places have sown seedlings very close in the three crop system. Various means should be used to increase seedling quality and prevent jointing of seedlings so they will not be too far along before being transplanted.

Third is keeping apace of the season to assure quality. This year the summer harvested crop area on which rice is being grown has been expanded over last year, but harvest of summer-harvested crops has been delayed, and an increase has occurred in the numbers of spring silkworms incubated. In some places, harvesting, planting, field care, and raising of silkworms have all taken place at the same time, and the conflict in seasons for doing each is fairly pronounced. Overall planning with due consideration to all factors must be done. Arrangements must be made in an overall way, workforces rationally organized, transplanting done on time, and efforts made so that no planting will have to be done in "June fields." In former years the quality of early rice transplanting into fields from which summer-harvested crops had been harvested was somewhat neglected. This year attention should be given this problem. Adequate base fertilizer must be applied, planting done reasonably close, and sufficient basic seedlings transplanted to lay a foundation for high yields from the early rice crop.

Fourth is care immediately following planting, major efforts being devoted to early development. During the past several years, because some places did not give timely care to their early rice crop, it did not develop well in the early stage only to develop wildly in the late stage. Lodging and diseases became serious. This lesson should be learned this year, with care being given even while planting is in progress, with early weeding of the fields and early fertilization to promote early development in an effort to produce high yields from the early rice crop throughout.

The rally also emphasized the need to prepare conscientiously for the late rice crop and autumn production of grains other than rice and wheat, even while devoting attention to early rice crop production. There should be diligent exchange of experiences on late rice crop production, measures for increased yields being put into effects in production teams, households, and fields. Additionally, a good job has to be done in harvesting and threshing carefully the summer harvested crops, experiences in gaining high yields from grains harvested in the spring summarized, and arrangements made about this year's winter season crops.

In conclusion, the rally noted that the key to winning a bumper early rice harvest lies in strengthening leadership and requiring all levels of leaders to further publicize and put into effect the "Summary of the Minutes of the National Conference on Rural Work" approved and sent forward by the CCP Central Committee, and to continue to perfect agricultural production responsibility systems. The job of popularizing and promoting agricultural science and technology should be intensified. There is need for conscientious change in leader workstyles and improvements in leadership methods, with leaders going into the frontline of agriculture to genuinely help the grassroots solve real problems.

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ENSURING PLANNED GRAIN AREAS URGED

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by staff commentator: "Ensuring the Planned Area for Food Grains--Second Comment on Exerting Efforts To Grasp This Year's Agriculture"]

[Text] Exerting major efforts to grasp this year's agricultural production and to stabilize the planting area of food grain crops are the urgent tasks at present. Before the busy season of spring tilling, each locality must quickly guarantee the planting area for food grains according to plans.

This year, the task of agricultural production in our province is difficult. To realize a steady increase in the total yield of food grains without a definite planting area will not be possible. Although with good weather conditions and subjective efforts, sometimes the predetermined output can be reached or surpassed even if the sowing area is slightly less, but, we cannot plan for everything and believe that everything will go smoothly. If the area cannot be guaranteed, and if unexpected natural disasters occur, then we will suffer a big loss. Therefore, only by planting the area fully and well according to plan and by exerting efforts in many aspects can we grasp the initiative in food grains production and remain undefeated.

The people depend on food. Exerting efforts to develop food grains production so that the total yield of food grains can steadily increase is an important task of agricultural production. We cannot regard it lightly. But some comrades have had several years of good harvests and have relaxed food grains production. They have expanded the areas for diversification again and again while arranging the distribution of crops, and they have reduced the planting areas of food grains again and again. This incorrect way of thinking and doing things should be highly noticed by the leadership at each level. During the 10 years of internal strife, because of sabotage and destruction by the "gang of four," Zhejiang, known as the home of abundant fish and rice, had to consume "soybeans and sorghum" from the Northeast. This lesson must not be forgotten. Today, we cannot let the people suffer again from a shortage of food grains because we have reduced the area of planting food grains at will. Maybe some comrades would say: "As long as we have money, why should we worry about not being able to purchase food grains?" You are wrong, comrades! If everyone thinks the same way as you and reduces the area of grain fields on a widespread basis, then, no matter how much money you have, where can you go to purchase food grains? The ancestors said: "Pearls, jade, gold and silver cannot be consumed when one is hungry and they cannot be worn as clothes when one is cold." Food grains are the treasures among treasures. We must never sway from the motto of "never relaxing food grains production." We must be firm and unswaying in ensuring the area of grain fields. We do this not because we can reduce or give up the development of economic crops and diversification. Conversely, economic crops must still be actively developed. The problem is that they must not further occupy grain fields. They should develop towards the mountains, hilly areas, rivers, ocean areas and beaches. We should think of ways to increase unit yield.

Aimed at the trend of liberalization in planting at some localities in our province, the party committee and government of each locality should take necessary administrative measures to interfere while strengthening ideological education to guarantee that the planned area of sowing of food grains is assured. Agricultural production is an important part of the nation's planned economy, and it must be guided by state plans. Farmers and production teams can only act within the scope allowed by state plans. The idea that "contracting a piece of land means that the contractor can plant anything" is mistaken. Some commune brigades have realized definite results in educating cadres and commune members and correcting the trend of liberalized planting by confiscating contracted land when the contracting family did not act according to state plans, and planted economic crops or developed diversification in the contracted grain fields. The purpose of such administrative interference is to maintain the whole benefit of the state and at the same time to fundamentally maintain the benefits of the collective and the commune member individual. Of course, we still emphasize ideological education. Administrative interference is only an auxiliary way. We must not believe that we can relax necessary political and ideological work whenever we mention administrative interference or even carry out forced orders and exercise "arbitrary uniformity." As long as we clarify the reason and actively guide the people, we can believe that the broad number of farmers can take the overall situation into consideration and recognize the overall situation and will be willing to accept the guidance of state plans.

Comrades on the agricultural battle front, spring tilling is about to start. We must not wait. Let us quickly stabilize this year's area for planting food grains and concretely implement the plans in every field to establish a good material foundation for the steady increase in food grains production.

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YUHANG COUNTY PROJECTS INCREASED RICE PLANTING OVER 1981

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Zhuo Jiegeng [0587 0094 1649]: "Developing the Potential in Many Aspects To Grasp Food Grains Production Well, Yuhang Will Plant Over 10,000 Mu More of Early Rice Than Last Year"]

[Text] Yuhang County has correctly handled the relationship between state plans and the autonomy of production teams, and between food grain production and diversification. It has developed potential in many ways. The whole county has prepared more than 421,000 mu of early rice, an increase of more than 13,000 mu over last year and an increase of more than 3,000 mu over the area actually planted in 1980.

While arranging this year's agricultural production plan, the county committee and the county government aimed at the problem that some commune brigades have neglected food grain production, organized cadres to conscientiously learn the related documents of the Central Committee, improved everyone's understanding of the importance of developing food grain production so that everyone understood clearly the relationship between correctly handling well food grains production and diversification under the guidance of state plans, and implemented measures to assure the area for early rice. First, they were determined to stop the competition between diversification of food grain crops for planting areas. Some commune brigades revised their planting plans. This year, Anxi Commune originally planned to plant 1,000 mu of wild rice stems, mushrooms and water chestnuts, surpassing the state plans by one and a half times. After learning and discussion, it decided to free the 600 mu beyond the state plans for planting special indigenous crops to plant paddy rice. In developing diversification, many commune brigades actively guided the masses to improve unit yield and to utilize mountain land, miscellaneous land and beaches. In this way, the whole county readjusted and expanded the area of food grains by more than 3,000 mu. Second, they insisted on the triple cropping system to improve the multiple planting index in view of the superior characteristics of natural conditions and the fact that there are more people and less land at the locality. Last year, the whole county planted 10,300 mu of single season hybrids. This year, except for some fields on mountain ridges which receive less sunshine, many commune brigades restored the area of planting early rice. Just this effort alone enabled the whole county to plant 5,400 mu more of early rice than last year. Each commune brigade also paid attention to improving the rate of utilization of seedbeds and appropriately reduced the seedbeds specifically utilized for late rice. This effort is expected to provide nearly 1,000 mu more for planting early rice. In addition, each county farm has also developed the potential of the land fully, so that the area of planting early rice can be enlarged by more than 3,000 mu.

To produce food grains well, to complete this year's agricultural production tasks and to complete them with surplus, recently, the cadres at each level throughout the county went deeply into the frontlines of spring tilling, and they inspected the planting plans for various crops and measures to increase yield so that every aspect is implemented. Sandun Prefecture combined efforts with signing contracts for work to implement plans for food grains production and planting, the distribution of varieties, the output goals and the state's procurement and surplus procurement tasks together for the production teams and the contract work groups to carry out. Of the 641 production teams throughout the prefecture implementing contracting production to the group and linking production with remuneration, 74 teams have already signed such contracts.

9296
CSO: 4007/343

THREE TECHNIQUES TO INCREASE EARLY RICE OUTPUT GIVEN

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Xie Renxing [6200 0088 5281] of the Shaoxing Prefecture Agricultural Science Institute: "Strive To Plant More and Produce High Yields of Early Rice by the Three Techniques"]

[Text] Early rice is our province's high yielding and stable yielding single season crop. What technical measures can be taken to strive for planting more and producing high yields of early rice? We believe:

I. Late rice must be cultivated in two stages as much as possible. This can reduce the area of special seedbeds and provide more land for planting early rice. This will establish a good foundation for cultivating sufficient and good and strong seedlings of late rice. For example, if we arrange 10 percent of the land for planting early maturing varieties of early rice as seedling plots for late rice, then, 90 percent of the area of early rice can be used for early rice and the area of seedling plots for late rice can be enlarged to 20 percent.

II. The unit yield of early and intermediate maturing early rice can be improved. There are four ways: 1) Early and intermediate maturing varieties can be matched with early maturing barley fields, guang lu ai No 4 and such late maturing varieties can be matched with green manure fields, thus, "shifting of varieties" can be carried out and this can prevent damage to panicle bearing and heading of early and intermediate maturing varieties by low temperatures. 2) Strong seedlings of appropriate age can be cultivated. The suitable seedling age of early maturing varieties is within 25 days, and that of intermediate maturing varieties is within 30 days. The amount of sowing in the seedling plots is 120 jin to 140 jin. The main field uses about 20 jin of seeds. 3) Fertilizers in appropriate amounts should be applied early. Base manure and seedling fertilizers constitute two-thirds the total amount of fertilizers, and fertilizers for panicle growth constitute one-third. 4) Management should be early and the fields should be lightly dried. The field should be weeded 5 days after planting and water should be drained to dry the fields lightly. The per mu yield of early maturing er jiu qing planted in the high yielding experimental field of the Shaoxing Prefecture Agricultural Science Institute reached 940 jin.

III. The unit yield of "late triple cropping" early rice should be improved. 1) We should continue to popularize sparse sowing to cultivate strong seedlings and prevent overaging or underaging. Generally, the amount of sowing in seedling plots is 60 to 80 jin. One mu of seedbed can supply plants for 5 to 6 mu in the large fields. 2) We should expand two-stage cultivation of seedlings and the method of removing some seedlings and leaving some seedlings for cultivation, i.e., during the first stage, 250 to 300 jin of seeds can be sown per mu for dry cultivation to a seedling age of about 15 days. During the second stage, green manure fields can be used as temporary beds. The seedlings should be densely planted in the temporary beds with soil attached at 2 cun times 2 cun. Each bunch should have 2 to 3 plants. When transplating, one plant is left and the rest are transplanted. The removed seedlings are planted in fields of late maturing winter crops, and the remaining seedlings will serve as seedbed seedlings. This method can produce high yields of late triple cropping early rice and provide fertilizers for early rice in the seedbeds, and it can increase the yield of food grains.

9296
CSO: 4007/343

NEW EARLY RICE PLANTING TECHNIQUES DISCUSSED

Hangzhou ZHEJIANG RIBAO in Chinese 15 Mar 82 p 1

[Article by Zhang Yueqiang [1728 6390 1730] of the Changkou Supply and Marketing Cooperative in Fuyang County: "Food Grains Can Be Increased Without Spending More, We Only Have To Change the 'Square' Into 'Length' and 'North and South' Into 'East and West'"]

[Text] In recent years, some regions in our province have conducted a planting experiment to plant "wide rows and narrow plants" and "from east to west." Both of these methods realized welcomed results of increased yields. Jinhua Prefecture changed the original 5 x 5 (cun) or 5 x 4 (cun) square planting to 7 x 2.5 (cun) or 6 x 2.5 (cun) wide row and narrow plants. The average per mu yield of early rice reached 800 to 900 jin with the highest reaching more than 1,100 jin. Under the same measures of cultivation, the new arrangement produced an increased yield of 5 to 8 percent over square planting. They also conducted planting experiments in different directions using three different types of arrangements in dense planting. As a result, the average per mu yield of early rice in the "east and west rows" was 860 jin, an increase of 8.4 percent over the south and north rows.

The reason that "wide rows and narrow plants" and "east and west rows" produced increased yields was mainly due to an increase in aeration and light penetration. The leaf area increased more quickly, the microclimate in the field improved, the rate of utilization of light energy was increased, and the original "superiority of the side rows" of plants was more fully developed and utilized. According to foreign experiments, after wheat was planted in "east and west rows," it could produce over 20 jin more per mu than wheat planted in south and north rows. They believed this was due to the function of the earth's magnetic field. Experiments showed that root and bud of corn and wheat seeds will turn towards the south pole after being placed towards the north pole for a period. This is called geomagnetic polarization of the root system. Therefore, the root systems of most crops focus towards the south and extend towards the south. After crops are planted in east and west rows, their root system can extend, they can root and spread towards the south in the soil and become perpendicular to the planting rows. This increases the rate of utilization of the area of the soil compared to that of plants planted in north and south rows. The nutrients and moisture in the soil are fully utilized by the crops and the yield increases.

9296
CSO: 4007/343

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TITLE: "Preliminary Report on Improvement of Restorer Lines in Hybrid Rice by Irradiation"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 2, 1982 pp 6-10

TEXT OF ENGLISH ABSTRACT: This paper presents the results of radiation-breeding of restorer lines in hybrid rice. The radiosensitivity of "Taiyin No 1" at various stages of development, the mutation frequency resulting from ^{60}Co γ-ray irradiation, and the inheritance and segregation of some characteristics of the early mutants have been studied. The restoring ability of early strains has also received preliminary study.

The experimental results indicate that γ-ray irradiation is an effective way of improving restorer lines in hybrid rice.

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TITLE: "Primary Study on the Control of Corn Borer by Pine Moth Trichogramma Labeled with ^{32}P"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 2, 1982 pp 31-36

TEXT OF ENGLISH ABSTRACT: The pine moth Trichogramma has been used to control the injurious insects in agriculture and forestry in China. The Trichogramma were released in an area of about 10 million mu. Good results were obtained. Now the pine moth Trichogramma is being used in the suburbs of Beijing. In the past 3 years it has been released in an area of about 1 million mu every year. The parasitic rate of the ovum of the corn borer was 70-80 percent.

[Continuation of YUANZINENG NONGYE YINGYONG No 2, 1982 pp 31-36]

In order to study the ability to scout for the host, the parasitic effect on the host and the competitive ability of the pine moth Trichogramma with the corn borer Trichogramma in the field, a syrup with ^{32}P 25μ Ci/ml was prepared to label the pine moth Trichogramma by feeding it directly. This treatment was not harmful to the insects. It was easy to discover the parasitic egg lump of the corn borer carrying radioactivity which could be measured with nuclear instruments and autoradiography. It has been proved that the pine moth Trichogramma in the field has a stronger ability of scouting for the host and a higher parasitic effect.

9717
CSO: 4011/161

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ORG: Nanjing Research Institute of Pedology, Chinese Academy of Sciences

TITLE: "Problems of Soil and Water in the Basic Construction of Farming Fields"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 3-9

ABSTRACT: The basic construction of fields is a task involving utilizing as well as reforming nature. It is also the foundation of agricultural modernization. Its major aim is to realize comprehensive treatment of the mountain, the water, the field, the forest, and the road so as to construct fields of high and stable yield, to develop multiple operations, and to promote agricultural production. Through a lengthy discussion of the meaning of ecological systems and the relationship between basic construction of farm land and the ecological system of the farm land, the paper proceeds to explain that water and soil resources form the major considerations of such basic construction project With regard to water, attention must be given to the interrelationship among the atmospheric water, the surface water, the soil water, and the ground water to treat the four as a unified entity for unified adjustment and arrangement. This is especially important in case of saline, alkaline lands and paddies. Regarding soil, the land should be made level, the layer of topsoil should be made thicker, organic fertilizer should be added, irrigation and drainage systems should be made convenient to operate, and a cropping system should be adopted to combine land utilization with land nurturing.

AUTHOR: XIE Xijian [6200 6932 0256]

ORG: Office of Agriculture and Forestry, Yichun Prefecture, Jiangxi Province

TITLE: "A Tentative Discussion on the Shift of Focalpoint of Basic Construction in the Paddy Rice Regions of the South"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 10-15

ABSTRACT: In the paddy rice regions of the South, after the problem of irrigation is basically resolved, the next major aim of farm land basic construction becomes the chief concern in the development of agriculture. For example, in the subtropical Yichun Prefecture, the condition of irrigation was poor in the 50's and farming depended upon rainfall in most of the areas while the harvest of the dry acreage was less than 1/4 of that of paddies. In the 70's, there are many irrigation stations and it is in a year of above normal rainfall when the yield of early rice crop suffers. The major concern has now been shifted to flood control to reconstruct waterlogged paddies by lowering the water table in order to obtain the optimal economic benefit from farm land basic construction investment. The goal of combining the engineering network of 20,000 reservoirs in these regions with 6,800 small hydroelectric power stations, a drainage system to coordinate with the existing irrigation facilities, and a cropping system of rice-rice-green manure is described as the focal point of current attention.

AUTHOR: None

ORG: Rural Work Department, Chinese Communist Party Anhui Provincial Committee

TITLE: "A Survey of the Economic Condition of the 10,000 Households in Anhui Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 16-20

ABSTRACT: For the purpose of mastering the actual condition of economic development in the rural villages of Anhui Province, the department spent close to 2 months last year to carry out a large scale survey of the 10,543 households of the 69 counties of the province. The survey includes the following items: (1) Production development: In 1981, the per capita grain production is found to be 1,153.19 jin, an increase of 30.62 percent; oil 67.64 jin, an increase of 76.65 percent; cotton 9.11 jin, an increase of 32.41 percent,with 0.96 pigs per household, an increase of 4.35 percent. (2) Net increase of income: In 1981, the per capita income is 364.22 yuan, an increase of 39.03 percent over that of 1980. After deductions of tax to the State, production costs, etc. the average net income of a commune member is 273.87 yuan, an increase of 46.2 percent. (3) Increased contribution: The sale to the State of grain is 258.87 jin per capita, an increase of 49.45 percent; oil 45.12 jin, an increase of 101.07 percent; cotton 8.14 jin, an increase of 36.58 percent, and 0.65 pigs per household, an increase of 1.56 percent. (4) Increased value of fixed assets: The

[continuation of NONGYE JINGJI WENTI No 5, 1982 pp 16-20]

value of fixed assets, including agricultural machinery, draft animals, large farm implements, and warehouses is 394.3 yuan per household, an increase of 43 percent, and 67.64 per capita, an increase of 41.48 percent. (5) Improved standard of living of farmers: In 1981, the grain consumption is 701.8 jin per capita, edible vegetable and animal oil 8.86 jin, an increase of 19.41 percent, meat, fish, poultry, and eggs 22.05 jin, an increase of 28.12 percent, sugar 2.85 jin, an increase of 21.28 percent, cloth 19.4 chi, an increase of 12.33 percent, housing 4.78 rooms, an increase of 14.08 percent, bicycle 0.23 per household,an increase of 35.29 percent, sewing machine 0.19 per household, an increase of 35.71 percent, radio 0.48 per household, an increase of 29.73 percent, watch 0.45 per household, an increase of 36.36 percent, savings 34.87 yuan per capita, an increase of 81.9 percent. Judging from the crop acreage, the grain acreage was 124 thousand mu in 1980 and 140,000 mu in 1981; the economic [cash] crop acreage was 22,150 mu in 1980 and 30,908 mu in 1981, amounting to increases of 12.9 and 39.5 percent respectively. Judging from the rate of development, the grain production was 467.9 million jin in 1980 and 634.6 million jin in 1981, an increase of 35.6 percent. The total income was 745.1 million yuan in 1980 and 1070 million yuan in 1981, an increase of 44.2 percent. The income from economic crops was 216.5 million yuan in 1980 and 373.1 million yuan in 1981, an increase of 72.3 percent. Condition of growth in family auxiliary industries is also reported.

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TITLE: "Analysis of the New Economic Combination System of Rural Villages"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 21-25

ABSTRACT: Following the implementation of the system of agricultural production responsibilities, a new type of socialist economic organizations has emerged. They are economic combination systems [associations] of various shapes and forms, including household with household, household with brigade, with some crossing over commune and prefecture barriers. As the great change occurred to rural economy in 1979, within the collectives, the error of egalitarianism is corrected and the production relationship adjusted to reinforce the autonomy of the collective as well as its members. The crop arrangement has been adjusted to develop multiple production. Rural auxiliary industries and market trading have been encouraged to result in the appearance of prosperity. Of the many forms of economic associations, the 3 major ones are: (1) Production associations to resolve problems of production materials, capital shortages, etc.; (2) Technological associations to engage in construction, paper-making, forestation etc. (3) Labor associations for transportation, processing agricultural by-products, etc.

AUTHOR: ZHENG Si [6774 1835]

ORG: Political Research Office, Hubei Provincial Committee

TITLE: "Fresh Water Fish-farming Should be Widely Developed in Hubei"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 5, 23 May 82 pp 47-51

ABSTRACT: Hubei has 1/10 of the nation's fresh water area capable of being used for fish culture. According to a 1980 statistical report, it has 13.33 million mu of water surface, of which 5.85 million mu are rivers. The remaining may all be used to raise fish to make the area the second largest in the nation, second only to Anhui. Since the liberation, fish production increased steadily for 10 years before it began to decline in 1960 as a result of the one-sided emphasis on grain production. The importance of fish culture was again brought to the attention of the leaders in 1980 and the production grew once again. Of the existing 7.48 million mu of fresh water surface, 4.13 million mu are being utilized at present, amounting to 55.2 percent. Compared with 1949, the water surface has been shrinking at an average rate of 290,000 mu a year, resulting from lakeshore encroachment to create new cropland. The constant discharge of large quantities of industrial waste far exceeding the self-cleansing capacity of the waters is another problem. Moreover, fish culture has also suffered from leftist policy errors and the frequent alterations of the system of administrating the province's fish production have caused the ratio of the value of marine products in the agricultural economy to drop year after year.

6248
CSO: 4011/125

AUTHOR: None

ORG: Special Editorial Writer of the Journal

TITLE: "[State-operated] Farms Should Handle Their Relationship With Commune-Brigades Well to March Forward Together"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 4-6

ABSTRACT: In the course of socialist construction, although the various sectors or departments do have common goals and identical interests, there may still be this and that contradiction in their interrelationship arising from their viewing a problem from different angles. This sort of contradiction belongs to the type of internal contradictions of the people and generally speaking they may be resolved through the method of solidarity-criticism-solidarity. Chairman Mao wrote specially on the subject and proposed theories and methods. We must continue to follow these proposals. The relationship between a State-operated farm and communes or brigades is a relationship among brothers. When they are neighbors seeing one another daily, problems are difficult to avoid. Such problems currently include 2 types: (1) Masses of a few commune-brigades go to a farm like a mob to take grain, rubber, and other crops; (2) Contradictions arising from day to day work. The first type is a crime against the law and should be punished as such. The second type should be resolved among themselves through mutual concern and negotiations.

[continuation of ZHONGGUO NONGKEN No 4, 1982 pp 4-6]

The distinction between the 2 types of problems does not appear to be clear-cut, if an incident told in the paper is any indication. The Xinguang Farm of Guangxi, a fruit-growing farm, experienced a tense relationship with a neighboring commune. The paper does not mention details of the dispute. In 1978, members of the commune decided to resolve the dispute by themselves. They cut down 3,000 mu of lemon trees, more than 1000 mu of bamboos, and stole the oranges. The farm brought the case to the court but before the court had time to hear one such case another had occurred. The leaders of the commune would not see those of the farm at first until finally the farm invited members of the commune to attend two meetings a year to discuss problems of mutual interest. A deputy-director of the farm was assigned the special job of visiting the commune to help the commune resolve its production and other problems. The problem between the farm and the commune was thus resolved and they felt very good about one another since then.

AUTHOR: SUN Panqi [1327 3140 2759]

ORG: None

TITLE: "Full and Effective Use of Agricultural Equipment Loans"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 8-9

ABSTRACT: At present, there are 3 major sources of capital for projects of agricultural and land reclamation construction: State approppariation, industrial surplus funds, and bank loans. The State has financial difficulties now and will be unable to increase agricultural investment for years to come. It appears that if the agricultural and land rclamation economy is to continue its steady development, it should find all sorts of ways to increase the capital accumulation within the industry on the one hand; on the other hand bank loans should be fully and effectively utilized. Some comrades have doubts about borrowing, however. They say that money for production construction should naturally come from the State. If the State gives the money we go ahead with the project; if there is no money there is no project. The paper argues that since the adoption of flexible economic policies, bank deposits have been growing very fast. In 1980, bank deposits amounted to 28.3 percent of the year's national income. From 1980 to 1982, short-term loans borrowed by State-operated farms for equipment from the agricultural banks came close to 6 hundred million yuan. Full and effective use of bank loans for agricultural development is urged by the author.

AUTHOR: None

ORG: Changjiang Agricultural, Industrial, and Commercial Joint Company, Chongqing City

TITLE: "Economic Association Promoted to Develop the Food Industry"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 4, 24 Apr 82 pp 13-14

ABSTRACT: In the 3 years since the establishment of the Changjiang Agricultural, Industrial, and Commercial Joint Company of Chongqing City, there have been new breakthroughs on the original foundation of the food industry. The value of products in 1980 was 13.23 million yuan and the profit was 2.06 million yuan. In 1981, the value of products was 20 million yuan, an increase of 51 percent; the profit was 3 million yuan, an increase of 46 percent. The major content of the joint company is to process and sell the agricultural and animal husbandry products produced by itself. It has established15 food processing plants and machine shops emphasizing dairy products, canned goods, soft drinks, and tea. The food industry has in turn spurred the establishment of industries of paper boxes, paper bottle caps, plastic bottles, plastic bags, packaging paper, printed products, etc. The joint company owns, first of all, mountain lands, forests, fresh water areas, etc. Additionally, it forms economic associations with communes and brigades. Its raw material supplies are; therefore, plentiful and the cost is low. It needs very little capital for machinery for very fast returns. The quality of its products is good and the price is low; therefore it can withstand competition very well.

AUTHOR: None

ORG: Bureau of Planning, Ministry of Agriculture and Land Reclamation

TITLE: "General Condition of Agricultural and Reclamation Production Construction in China in 1981"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 3-5

ABSTRACT: In 1981, the entire agricultural and reclamation system of China earnestly implemented the central party's policy of continued economic readjustment to promote the economic responsibility system. All over the country, aside from a yield reduction of grain and beans due to natural calamities, there were general yield increases of economic crops to produce agricultural-industrial products valued at 8.6 billion yuan, of which the value of agricultural products was 4.4 billion yuan and that of industrial products 4.2 billion yuan (based on the price level of 1970). A profit of 200+ million yuan was obtained. Among the agricultural products, the value of products of the farming system was 2.5 billion yuan, amounting to 56.2 percent; that of the forestry system 890 million yuan, amounting to 20 percent (in which 760 million yuan were from the rubber industry); the animal husbandry industry 610 million yuan, amounting to 13.9 percent; the auxiliary industry 420 million yuan, amounting to 9.5 percent; the fishery industry 20 million yuan, amounting to 0.4 percent. The acreage of grains and beans was 52.19 million mu and the products totaled 1,217,000 jin; the acreage was 2.7 percent less than that of the previous year and the total production reduction was 20 percent. The cotton acreage was 28.15 million mu

[continuation of ZHONGGUO NONGKEN No 5, 1982 pp 3-5]

and the total production was 2.22 million dan; the acreage was enlarged 14.7 percent and the production increased 25.4 percent. The acreage of oils was 3.73 million mu and the total production was 3,156,000 million dan. The acreage was enlarged 10.7 percent; the production increased 28.5 percent. The acreage of sugar was 1,058,000 mu and the production was 36.08 million dan. The acreage was enlarged 6 percent and the production increased 23.5 percent. The total sale of the agricultural and reclamation system in 1981 was 4.45 billion yuan, an increase of 5.5 percent over the previous year. The sale of grains and beans was 4.21 billion jin, a reduction of 31.2 percent. The sale of commercial grains and beans amounted to 34.5 percent, a reduction of 5.4 percent (in which 370 million jin were soybean). The sale of cotton was 1,983,000 jin; that of oils 2.32 million jin; that of meats 305 million jin amounting to an increase of 11.3 percent (in which the sale of commercial meats was 58 percent, same as that of the previous year). The exported products of the agricultural and reclamation system amounted to 506 million yuan, an increase of 10.9 percent over those of the previous year. The major exported products included 150,000 tons of soybean, 4,000 tons of rice, 308,000 pigs, and 14,000 head of cattle.

AUTHOR: WU Shengwei [0702 0524 0251]

ORG: None

TITLE: "Why Can the Guizhou Agricultural and Land Reclamation Enterprise Raise Its Economic Benefits in a Year of Great Natural Disaster?"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 15-16

ABSTRACT: In 1981, Guizhou Province suffered the severest drought in 60 years, but the 42 State-operated farms of the agricultural and land reclamation system reaped the greatest harvest in the 29 years since it was first established. Compared with 1980, the farms produced 25,000 dan tea leaves , an increase of 17.8 percent, 910 million jin of milk, an increase of 3.41 percent, 6,500 dan of oil materials, an increase of 66.79 percent, 780 thousand jin of pork, an increase of 2.63 percent. The total income was 21 million yuan, an increase of 20.3 percent over that of 1980. The paper credits the following for the great success in the midst of adversity: (1)Realistically, adjusting the crop structure to take advantage of the natural condition of mountainous regions; (2)Eliminating the errors of egalitarianism and implementing various forms of production responsibility system; (3) Carrying out joint operation of agriculture, industry, and commerce to change the condition of producing raw materials only.

AUTHOR: None

ORG: The 850 Farm, Heilongjiang Province

TITLE: "Grain-Fertilizer Rotated Cropping System in the Eastern Part of Heilongjiang Province"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 5, 24 May 82 pp 19-20

ABSTRACT: Since the reclamation of the eastern part of Heilongjiang, an imbalance between land utilization and land nurturing has become a general problem due to insufficient supplement of organic matter. Beginning in 1963, an experiment has been carried out to study ways of rotating grain and green mature. After the wheat harvest, a crop of fast growing green manure is cultivated and turned over during the same year. The current system includes a 3 to 4 section rotation of corn, sorghum, millet, paddy rice, etc - soybean - wheat, being one crop a year planted in the spring and harvested in autumn. The growth and development period of wheat is short, however to leave 1.5-2 months of growing season before the first frost. This is enough time for a crop of rape or pea to produce 1,000 - 3,000 jin/mu of green manure, which are capable of growing until 16 Oct, one to two weeks after the first frost. The green manure crop should be turned over late Sep to early Oct, but if the soil moisture is good, it may be left to grow until the middle of Oct. In 1980, this system had been extended to 300,000 mu in the farm.

6248
CSO: 4011/131

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ORG: All of Guangzhou Municipal Bureau of Agriculture

TITLE: "Agronomical Expressions of Shuanggui No 1 and Its High Yield Cultivation Technique"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 3, 8 May 82 pp 1-4

ABSTRACT: Shuanggui No 1, same as Shuanggui-210, is a new paddy rice breed, bred out by Guangdong Provincial Academy of Agricultural Sciences' Research Institute of Rice through hybridization of Guiyangai C17 x Guichao No 2. For the purpose of clarifying its agronomical expressions and cultivation technique, the bureau carried out field tests, in cooperation with Fanyu County Institute of Agricultural Sciences, Conghua County Institute of Agricultural Sciences, Hua County Donggong Commune Agricultural Science Station, and Fanyu County Shidong Brigade Agricultural Science Station. Judging from observations of large acreages in a number of counties, communes, and brigades, the paper summarizes that as the early crop, the growth and development period is 140-165 days, i.e. 99-107 days after transplantation, as the late crop in the autumn, it is 112-126 days, i.e. 92-103 days after transplantation. Its spike development process, stem and leaf morphology, spike

[continuation of GUANGDONG NONGYE KEXUE No 3, 1982 pp 1-4]

and grain structure, and disease resistance are reported according to the survey data. The second half of the paper is devoted to discussions of its high yield cultivation technique, including the proper seeding time, suitably early transplanting, reasonable density of no more than 3-5 seedlings per hole, the principle of fertilizer application, and arrangements for its utilization as either the early or the late rice crop.

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TITLE: "Classification of Annual Rainfall of the First High Water Stage and Its Relationship With Early Rice Production"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 3, 8 May 82 pp 11-13

ABSTRACT: Based upon the rainfall data of 1959-1980 of the station, the paper proceeds to explain that whether a particular place is suffering from flood calamity in a given month is determined by the total rainfall of that month in that place as well as the degree of concentration of rainfall in that month. When the former is represented by $\frac{\Delta R}{R}$ and latter by $\frac{\Delta r}{r} + 1$, the sum of the two represents the floodwater index of that month in that place. When the floodwater indices of Apr, May, and Jun of that year in that place are added together, the annual floodwater index for that year's first high water stage for that place is obtained. The annual floodwater index demonstrates the amount of rainfall, the condition of concentration, and the size of the affected area. The greater is the index the more serious is the condition of the rain. When the hours of sunlight is represented by $\frac{\Delta S}{S}$, $(\frac{\Delta R_2}{R_2} - \frac{\Delta S}{S})$ represents the year's index for the early rice crop. As 70 percent of the yield of the early rice crop is formed after the heading-blooming stage, the yield and the index have a definite relationship. When the index is < 8, the possibility of yield increase is 73 percent; if it is > 8, the possibility of yield reduction is 71 percent.

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TITLE: "A Study on Rice Ragged Stunt in Guangdong Province"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 3, 8 May 82 pp 31-34

ABSTRACT: Rice ragged stunt was first reported in the Philippines in 1977. In China, it was first discovered in Fujian and Guangdong Provinces in 1978-79 and it was also reported in Jiangxi in 1980. According to surveys of affected fields, it is generally a scattered incidence but in serious cases, 90 percent of the rice plants may be diseased to cause a total loss of harvest for the paddy. The incidence, the symptom, the electromicroscopic observation, the disease-spreading characteristic of brown planthopper (Nilaparvata lugens (Stål), the determination of disease resistance of major breeds, and the interrelationship between the virus and the vector are reported, on the basis of the survey data of Jul-Sep, 80 of various locations in Guangdong Province.
6248
CSO: 4011/152

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TITLE: "Studies on the Degeneration of Hybrid Rice"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 8-15

TEXT OF ENGLISH ABSTRACT: Samples of hybrid rice and its three lines obtained from Jianhu County, Jiangsu Province, and from several southern provinces were subjected to random sampling test and assessment of off-types during 1977-81. The pollen fertility of male sterile lines from different districts was checked, the combining ability of male sterile lines and restorers was estimated and the yield of hybrid rice from various districts and the productivities of single plants with different mixture ratios were compared. The experimental results showed that the deterioration of hybrid rice was mainly due to the mechanical mixture and biological contamination. No so-called degeneration of hybrid rice and its three lines could be found after factors conducive to mixture were eliminated. Thus, preventing mechanical mixture and biological contamination should be a critical measure for the rejuvenation of the hybrid rice.

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TITLE: "Progress of Resistance Breeding to Fusarium Wilt and Verticilium Wilt of Cotton in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 16-22

TEXT OF ENGLISH ABSTRACT: Fusarium and Verticillium wilts detrimental to yield increase have become a great menace in the cotton growing areas in China. The area of infected cotton fields amounts to 19.4 percent. It is proven in practice in China and in other countries that adoption of disease-resistant varieties is the most beneficial measure. In the 31 years since the founding of the PRC, 47 varieties (or lines) in various types have been developed. The Fusarium resistant varieties undergoing the regional variety test for disease resistance and recommended for planting on a large scale are Shaanmian 401, 86-1, Shaanmian 4, Shaanmian 6, 5245 and Chuan 73-27. The Verticillium wilt resistant varieties recommended are Liaomian 5 and Zhongmian 9. The Fusarium and Verticillium wilt resistant variety released is Shaan 1155. The area under disease-resistant cotton in the whole country totals up to 6 million mu. Wilt in the seriously infected

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 1982 pp 16-22]

areas has been controlled, and cotton production is swinging a new direction. As a consequence, the loss of 1.5 million piculs of lint cotton every year is avoided.

Trials show that the Fusarium wilt resistant varieties developed in our country have strong resistance and a high consistency in yield are are widely adapted. The resistance of the Verticillium wilt resistant varieties approximates that of the varieties used in other countries. Their productivity and lint quality improve yearly. The discrepancy between them and the conventional productive susceptible varieties of good qualities becomes less as time progresses. Rich experience is gained step by step, advances are made in the theory of cotton breeding, the ranks of cotton breeders are enlarged and constant improvement is made in the methods of cotton breeding. All these present a bright future for the third generation of disease resistant varieties which are marked for their resistance to both wilts and the acceptable combination of productivity and good lint quality.

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TITLE: "Preliminary Study on the Evaluation of Economic Results in Agricultural Scientific Research"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 1982 pp 89-94

TEXT OF ENGLISH ABSTRACT: The authors hold that the contribution of agricultural scientific research to the growth of the national economy is measured according to the benefits it offers to the development of agriculture.

The economic results of agricultural scientific research should be evaluated from the point of view of their optimum service to socioeconomic development. They reflect the proportionate relationship between labor consumed and effective output as well as the incremental relationship between the economic results of the new research and those of the previous ones.

The authors propose an economic critical boundary for extension and the use of the research achievement indicators of the economic effects and methods of calculation.

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 1982 pp 89-94]

They suggest that: The increase of social gross production of agricultural products, the net income increment, the research returns as well as the functional share of agricultural sciences and techniques should all be considered in the total increment of agricultural productivity and in its growth rate. The direct economic results of a new variety of cotton, "Lu-Mian No 1," are estimated.

9717
CSO: 4011/158

AUTHOR: ZHANG Baoyuan [1728 1405 0337]

ORG: None

TITLE: "The Technological Characteristic of Weather Station Forecasting and Its Reform and Improvement"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 3, 10 Mar 82 pp 35-36

ABSTRACT: The characteristic of the forecasting technique of China's county weather stations is to combine weather chart, the data of the continuously evolving meteorological factors, and the weather forecasting experience accumulated by local weather forecasters and masses. The author affirms the correctness of this technique and believes that if it is seriously carried out the level of forecasting by the county weather stations may be improved. The author also suggests that in order to improve the forecasting technique of the county stations, it is necessary to develop radiophotography, cloud observation, comprehensive analysis, historical probability, personnel training, and a balance between new and old techniques in every county weather station.

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CSO: 4011/171

END

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China Report

AGRICULTURE

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CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

BRIEFS

NORTHERN CHINA RICE--North China has begun to plant a new hybrid rice which yields 750 to 1,100 kilogrammes more a hectare than other varieties, according to agronomist Yang Zhenyu, who developed the new strain. More than 66,000 hectares of farmland have been planted with the hybrid rice "Liyou 57." The new variety is the first Geng type hybrid rice adapted to the weather of northern China. Geng type rice has a longer growing season and is more glutinous than Xian type which is grown in southern China. In Dawa County, Liaoning Province, where 16,000 hectares of farmland were planted with "Liyou 57" the output averaged 8,250 kilogrammes a hectare last year. On small experimental plots, the yield was as high as 12,000 kilogrammes a hectare. [Excerpt] [Beijing CHINA DAILY in English 3 Aug 82 p 3]

PRC PRODUCTION BRIGADES--The number of production brigades who have prospered this year has nearly doubled. 10,943 brigades fall into this category, up from 5,569 last year. These brigades have an average annual per capita income of 300 yuan. This means 900 yuan yearly for a family of three. They comprise 1.52 percent of the total number of brigades in the country and are mostly located in Shanghai, Beijing and Guangdong Province. Beijing inner Mongolia autonomous region, Jilin, Jiangsu, Guangdong and Anhui had the highest number of brigades who prospered. [Text] [Beijing CHINA DAILY in English 3 Aug 82 p 3]

SUGAR PRODUCTION--Beijing, 25 Jun (XINHUA)--China produced 3.4 million tons of sugar in the 1981-1982 refining season which has just ended, according to the Ministry of Light Industry. This is 13.3 percent up on the previous refining season which was a record itself. Sugar output has registered an 89 percent increase since 1977. Cane sugar production went up 16.1 percent this year with an output of 2.74 million tons while beet sugar increased 3 percent. Support to peasants growing sugar cane in the form of higher purchasing prices and provision of grain were the main reasons for the increase. Chinese made presses capable of refining 400,000 tons of sugar were installed this year, mainly in existing refineries. [Text] [Beijing XINHUA in English 1214 GMT 25 Jun 82 OW]

CSO: 4020/154

SURPLUS GRAIN STOCKS POSE PROBLEM FOR CHUXIAN PREFECTURE

Beijing RENMIN RIBAO in Chinese 13 May 82 p 1

[Reporters' letter: "Solve as Fast as Possible Chuxian Prefecture's Problem of Transferring Grain and Rape to Other Localities"]

[Text] In the middle and latter parts of Arpil, just in the season when rape was blossoming and wheat was earing, we reporters paid a visit to Dingyuan, Fengyang, and Jiashan counties in Chuxian Prefecture. Wherever we went, the cadres and masses in succession reported that "it is hard to sell grain," and many times we saw masses in long lines at grain supply centers. Because some granaries were already full to the brim, there was no choice but to build open-air depots; because in some places there was no space to pile up grain, there was no choice but to stop purchasing grain.

Over the past 2 years, Chuxian Prefecture has changed its longstanding passive situation of "depending for food on grain resold by the state to the place of production." On the foundation of the peasants' standard of living rising year after year, the amount of grain and rape sold to the state has increased year after year. According to statistics compiled by the prefecture's grain burea, by 20 April more than 1.2 billion jin of grain had been put into storage throughout the prefecture, an increase of close to 1.5 times above the prefecture's grain state-purchase and state-excess purchase quotas and an increase of over 500 million jin in the total amount of grain in storage as compared with that of the previous year period; over 200 million jin of oil-bearing crops are already in storage, over 7 times above the state purchase quotas and over 100 million jin above that of the previous year period. For the period from January through March of this year, the amount of grain in storage throughout the prefecture was over 110 million jin, over 3 times above that of the corresponding period of last year. After the beginning of April, the daily amount being put in storage was still 1 million to 1.5 million jin.

Why, in this time of temporary shortage, has there appeared in Chuxian Prefecture a situation in which too much grain has been sold. According to our understanding, this is mainly for the following two reasons: The first reason is that last year the scale of the growth in output of grain and rape was large and the masses have a lot of grain in hand. At present, the grain stored up in commune member homes is generally enough for the families to eat until autumn grain comes in this year, and many families would not be able to finish eating the stored grain until next year's summer harvest. The other reason is that a lot of summer-ripening crops were planted and are growing well; the preliminary estimate is that there will be about a 20 percent increase in output over that of last year. Seeing the large batch of new grain that will come into their hands, the peasants one after another demand even more to sell the surplus grain.

Currently, the outstanding problem existing in grain supply centers in Chuxian Prefecture is: their storage capacity is inadequate and the transfer of grain and rape to other localities is not done in a timely fashion, and this seriously affects purchasing work. According to statistics, last year the prefecture's 170 grain supply centers set up a total of 1,528 open-air depots, and there are now over 100 million jin of grain in open-air depots. Therefore, the local leaders at every level and the comrades engaged in grain work urgently hope that the departments concerned will quickly transfer the existing grain stocks to other localities, in order to solve the current problem of the masses' "grain-selling difficulty" and to make good preparations for purchases of summer grain and rape.

9727
CSO: 4007/241

BRIEFS

LIXIN COUNTY WHEAT HARVEST--Anhui's Lixin County has reaped a bumper harvest from its 1.116 million mu of wheat this year, with its per-mu yield reaching as high as 323 jin. The county has reaped 360 million jin of wheat this year, marking an increase of 13.2 percent compared with 1981. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 18 Jul 82 OW]

ZONGYANG COUNTY EARLY RICE--By 25 July, Zongyang County, Anhui, had harvested 170,000 mu of early rice and planted over 100,000 mu of late rice. [OW100623 Hefei Anhui Provincial Service in Mandarin 1100 GMT 1 Aug 82]

LUJIANG COUNTY RICE HARVEST--Lujiang County in Anhui has reaped a bumper harvest from its 650,000 mu of early rice fields this year, with both total and per-mu yields hitting an all-time high. The average per-mu yield has reached 730 jin while the total output is 10 percent more than last year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Aug 82 OW]

CSO: 4007/526

PRCSPECT OF GOOD WHEAT HARVEST IN SUBURBS SEEN

Beijing BEIJING RIBAO in Chinese 24 Apr 82 p 1

[Article: "Wheat Growing Well on 2.5 Million Mu in Beijing Suburbs"]

[Text] After a brave fight waged jointly by the great number of cadres and commune members under the severe conditions of sustained dry weather and days without water, the wheat on 2.55 million mu in this city's suburbs is growing better than expected. If only the suburbs continue to economize in using water, rationally irrigate, and scientifically manage the fields, there is a great hope that they will achieve a good harvest of summer grain.

Last autumn, the people in the suburbs firmly implemented the policy of making planned economy primary and overfulfilled the state's wheat planting plan on a total acreage of over 2.553 million mu. However, the dry weather and lack of water, the insufficient soil moisture, coupled with a fairly early drop in temperature, caused the wheat on the greater part of the fields to grow weakly with little tillering and an insufficient total number of stalks before winter set in. According to statistics compiled at that time, third-grade seedlings accounted for 40 percent of the wheat in the suburbs.

Under extremely disadvantageous conditions, the communes and production teams in the suburbs, in line with the ideas of agricultural experts and scientific and technical personnel, got a tight grip on wheatfield management centered on resisting drought and protecting seedlings. After spring began this year, under conditions in which electric power was insufficient, the great number of communes members made no distinction between day and night and turned on the irrigation machinery during the power-supply periods. By the first part of April, over 90 percent of the wheatfields in the suburbs had been irrigated once and had received one application of fertilizer. In addition, the temperatures this spring have tended to be high and steady, and the frequent cold snap in spring of previous years has not occurred, which is even more advantageous for the growth of the wheat, and the greening and jointing of the wheat seedlings has on average occurred about 5 to 7 days earlier than in normal harvest years. Because the spring tillering stage is long, the insufficiency in the total number of stalks before winter set in has been made up, and the highest total number of stalks this spring is greater than in the corresponding period of last year. According to statistics, there are less than 30 percent third-category seedlings. This spring barley, planted on 350,000 mu, is also growing better than in the recent several years.

The municipal department concerned has pointed out: From now on water will be in even shorter supply, and a second watering of several tens of thousands of mu of wheat in the suburbs cannot be quaranteed. Therefore, it is extremely important to economize on water use and to irrigate rationally. Communes and production teams that have not yet put into practice the motor-pumped well responsibility system must quickly do so. The work of maintaining old wells and refitting deep-well pumps must continue to be done intensively. Owing to the fact that the wheat's growing stage is ahead of time, water and fertilizer must be applied early in the jointing stage. Although there are many difficulties, if management is done well in the middle and final stages a good harvest of wheat can be obtained.

9727
CSO: 4007/241

PEASANTS PAPER SUPPORTS IDEOLOGICAL EDUCATION

HK240528 Beijing ZHONGGUO NONGMIN BAO in Chinese 1 Jul 82 p 1

[Contributing commentator's article: "Arm the Peasant Party Members With Communist Ideology"--slantlines denote boldface]

[Text] The central force leading our cause forward is the Chinese Communist Party. While we are warmly commemorating the 61th anniversary of the founding of the CCP, still fresh in our memory is what Comrade Hu Yaobang said 1 year ago at the meeting in commemoration of the 60th anniversary of the founding of CCP: "In the new historical period, faced with the great task of socialist construction for modernization centering on economic construction, we deeply feel that in order to fulfill this task, the key lies in our party." In the past year our party has continuously adhered to the Marxist ideological, political and organizational lines, put into effect a series of correct policies and guiding principles and devoted great efforts to education in party spirit, party style and party discipline, and made a number of improvements and progress in party style. Popular style is spurred by party style. As a result of the political stability and economic prosperity in our country, great changes have taken place in the mental attitude of the people. Especially in the vast rural areas, with the rapid development of production and improvement of people's standard of living, the peasants are full of joy and every place has a new look about it. The broad masses of peasants are on more intimate terms with the party. They pin their hopes on the party and are more confident in realizing the four modernizations.

Vast numbers of party members fighting in the countryside have played important roles in developing the excellent situation there. The vast majority of them love the party, love socialism and love the collective. They are able to unite and lead vast numbers of peasants in earnestly implementing the party's various policies and guiding principles and in making positive contributions to building material and spiritual civilization in the countryside. Nevertheless, we must also see that quite a number of grassroots party organizations and party members have not yet adapted themselves to the requirements of the new historical period. Some have the problems of impurity in ideology, style and organization. Some are weak and lax, caring nothing for the struggle against bad persons and bad deeds. A handful of grassroots party organizations and party members even take the lead in commiting crimes. All this seriously isolates the party from the masses, harms the prestige of the party and weakens the fighting ability of the party. It must be changed as soon as possible.

As early as 40 years ago, Comrade Mao Zedong said: "Many of our comrades do not know the difference between the Proletariat and the petite bourgeoisie. Many party members have joined the party organizationally, but they have not completely joined the party ideologically, or have not completely joined the party yet." In order to make the vast numbers of party members in the countryside and bring into full play their roles as pioneers and models by which they can lead and influence the masses of the peasant with their practical actions in uniting together for the realization of the party's line and objective, it is necessary to conduct complete and deep ideological education for the party members in the countryside so as to guarantee that the party ranks will better meet the requirements of socialist construction for modernization.

/It is necessary to conduct education in communist ideology./ The essential feature of a Communist Party member is that he must, politically, ideologically, in style and action, steadfastly maintain the natural color of a Proletarian vanguard, master dialectical and historical materialism, adhere to the four basic principles, and firmly embrace the communist world outlook. At present, some party members have lost their interest in Marxism-Leninism-Mao Zedong thought, and have strengthened their feelings for "money and currency." They have forgotten the great communist goals and are keen on their own cause. This is extremely wrong. We must realize that we party members are not only ordinary peasants, but also the members of the Proletarian vanguard. Therefore, we must keep the great communist goal in our minds and be concerned for the "great cause" of the party and people. We must correctly handle the relationships between the state, the collective and the individual. One's personal interests must be subordinated to the interests of the collective. Partial interests must be subordinated to overall interests. Present interests must be subordinated to long-term interests. We must unite the masses and have close cooepration with them in our labor, work and life, bring into play their initiative, enthusiasm and creativity, rely on the wisdom and strength of the collective to overcome various difficulties in marching forward and fight all our lives for communism. Many comrades who joined the party since the "great cultural revolution" lack basic communist awareness. Therefore, it is an urgent task to conduct relatively systematic communist ideological education for them.

/It is necessary to conduct education in the party's various policies and guiding principles in rural areas since the third plenary session/ because "leftist" influence has not yet been cleared away, plus the fact that there is no education or insufficient education being conducted, some party members in the countryside do not quite understand the party's rural line, guiding principles and policies since the third plenary session, or even adopt a resistant attitude toward them. Moreover, some only implement those regulations which suit their own tastes and do not implement those they dislike. All this directly causes bad influence and disruption to the implementation of the party's various rural policies and guiding principles. Therefore, it is necessary to continue education for the party members in the party's line, guiding principles and policies. Through education, vast numbers of party members will understand how our party formulates correct policies on the basis of closely integrating the scientific truth of Marxism-Leninism-Mao Zedong thought with the practical situation of our country, and why it is necessary at the present stage to implement these policies and understand their significance. They will also know how to understand and master the essence of the party's policies and consciously and creatively implement them in practice. At present, special attention should be paid to educating party members in earnestly studying the "minutes of the national conference on rural work" approved and transmitted by the central authorities and to unifying understanding, guiding action and promoting work according to the essence of this document.

/It is necessary to conduct education in party spirit, party style and party discipline./ At present, a handful of party members are carrying out religious, group, faction an superstitous and bambling activities. Some of them are even engaging in smuggling, corruption, robbery, speculation, fraud, bribery, and divulging and selling top secrets of the country. All these things have undermined party unity and discipline. Every party member must, through education, know that it is necessary to abide by the party constitution and the guiding principles for party political life and clearly understand the various expressions of the class struggle under the new historical conditions. Every party member must maintain the purity of the Communist Party and prevent the invasion and infiltration of decadent capitalist ideology and lifestyle, thus building a great wall for consciously resisting capitalist ideology. In multi-nationality areas, it is also necessary to conduct education for the party members in nationality policies, the unity of nationalities, and atheism.

"Ideological education is the key link to be grasped in uniting the whole party for great political struggles. Unless this is done, the party cannot accomplish any of its political tasks." (Mao Zedong: "On Coalition Government") We must, in accordance with this instruction of Comrade Mao Zedong and proceeding from practice, widely, incessantly and deeply conduct ideological education for the vast numbers of party members in the countryside, arm them with communist ideology, and greatly upgrade their communist awareness and their awareness of party spirit, organization and discipline. By so doing, they can faithfully fulfill their solemn pledge when they joined the party and always remember that is is our party's objective to serve the people wholeheartedly, it is our party's ultimate aim to realize communist ideal and that party members must fight for communism all their lives. They must bring into full play their roles as vanguards and models in various tasks and be rooted among the masses of the peasants. They must guarantee that the party's policies and guiding principles be implemented in the grassroots and vigorously mobilize a mighty force to make greater contributions for building a modern, highly democratic and highly civilized socialist new countryside.

CSO: 4007/511

PRODUCTION BRIGADES LOOK AFTER ELDERLY PEASANTS

OW050906 Beijing XINHUA in English 0717 GMT 5 Aug 82

[Text] Beijing, 5 August (XINHUA)--More than 426,000 elderly peasants are now enjoying old-age pension paid by their collectives in 11 Chinese provinces and municipalities, according to a spokesman of the Ministry of Agriculture, Animal Husbandry and Fishery.

The pensions are offered by 3,400 prosperous production brigades in these provinces and municipalities (a production brigade is a collective work unit consisting of one or more villages with scores to hundreds of peasant families). Peasant men aged 65 and over and peasant women over 60 are granted pensions, provided they have worked in the collectives more than 10 years. Generally, an old peasnat man or woman receives a monthly pension of 10 to 15 yuan and, in some areas, receives as mush as 20 yuan a month.

Following the Chinese tradition, pensioned peasants still live with their children who support them as before.

The 11 municipalities and provinces include Beijing, Shanghai, Tianjin, Zhejiang, Jiangsu, Shandong and Liaoning. The pensions are drawn by the production brigades from profits of their collective enterprises, sideline occupations or from their public welfare fund.

In the Huaxi production brigade of Jiangyin County, Jiangsu Province, the 107 peasant pensioners are provided with free food and fuel and supplied with five yuan a month per person. In terms of real income, the monthly pension comes to more than 20 yuan for one person.

Obviously hale and hearty, 80-hearty-old Qu Jiabao and his wife live in a large family comprising four generations. Qu Jiabao said he and his wife are not lonely, looking after their three-year-old great grandson, and are delighted to watch the child toddling about and playing lively.

Some old peasants in the Huaxi production brigade spend their time in raising checkens and rabbits, planting flowers or playing chess. In the brigades newly built 200-seat theater, the eight front rows have sofas and tea tables especially prepared for the aged.

Among the 107 old peasants in the Huaxi production birgade, over 30 have asked to join in collective labor since they are in good health. The leaders assign light jobs to them and pay them for their work in addition to their pensions.

More than 120,000 old peasants have been granted pensions in the suburbs of Shanghai, where the number of pensioned peasants ranks first in China.

Output of grain and economic crops in the ten suburban counties of Shanghai is among the highest of the country for years and, since mid-1970s, most of suburban communes and production brigades have expanded handicrafts, fishery and other side-line occupations, which bring forth over half of the total agricultural income.

In China, respect for the old, an age-old tradition, is also taken as a socialist morality. Old people with no close relatives to look after them in the countryside are entitled to "five guarantees"--food, clothing, housing, medicare and funeral expenses to be provided by the collectives. Some well-off communes or production brigades have also set up homes for the aged.

CSO: 4020/154

BRIEFS

CENTRAL METEOROLOGICAL BULLETIN--The Central Meteorological Observatory issued a strong typhoon bulletin at 0600 [2200 GMT] on 27 July: This year's typhoon No 9 was spawned over the northwestern Pacific on 22 July. At 0500 [2100 GMT] on 27 July, the typhoon was located about 1,000 km off the eastern part of China's Taiwan Province, or 18.8 degrees north latitude and 129.9 degrees east longitude. Maximum winds at the center of the typhoon are force 12. It is expected that the center of the typhoon will continue to gradually move in a northwesterly direction toward China's Taiwan Province at a speed of about 25 km per hour. Winds of forces 6 to 9, caused by the typhoon, are expected on 27-28 July over the eastern part of Taiwan Province, the Balingtan Channel and the Bashi Channel. Strong winds of forces 10 to 12 are expected along the path of the typhoon. It is requested that all units concerned tune in to weather forecasts broadcast by local meteorological stations. [Text] [OW270026 Beijing Domestic Service in Mandarin 2230 GMT 26 Jul 82]

COTTON PURCHASE--Beijing, 25 Jun (XINHUA)--China's commercial departments purchased 2,875,000 tons of cotton by the end of May, an all-time high, according to a national conference that opened here today. The figure represents an increase of 200,000 tons over the 1980 purchase year. The 1981 domestic purchase year starts September 1981 and ends in August 1982. Purchase quotas were topped in the country's major cotton producing centers of Shandong, Jiangsu, Anhui, Hebei, Henan, Xinjiang, Liaoning, Hunan and Jiangxi. The increase helps provide more raw materials for the textile industry and reduces the need for cotton imports. [Text] [Beijing XINHUA in English 0707 GMT 25 Jun 82 OW]

CSO: 4020/154

BRIEFS

LONGYAN PREFECTURE RICE PRODUCTION--Longyan Prefecture, Fujian, has reaped a good harvest of 84,000 mu of early rice, with its per-mu yield reaching as high as 534 jin. The prefecture has also planted 720,000 mu of paddy rice of a disease-resistant strain, and greatly reduced incidents of rice blast. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 23 Jul 82 OW]

FUJIAN PREFECTURES' EMERGENCY HARVEST--As an emergency measure against this year's typhoon No 9, on 26 July, Fujian's Putian Prefecture reaped harvest from 200,000 mu of early rice paddies and on 27 and 28 July, Jinjiang Prefecture reaped 70,000 mu and Longxi Prefecture 100,000 mu of early rice. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 30 Jul 82 OW]

FUZING COUNTY CROP LOSS--About half the 140,000 mu of potatoes in Fuzing County, Fujian, were damaged by this year's typhoon No 9. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 3 Aug 82 OW]

HUIAN COUNTY TYPHOON DAMAGE--About 150,000 mu of Huian County's 210,000 mu of potatoes in Fujian were damaged to various degrees by this year's typhoon No 9. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 4 Aug 82 OW]

SANMING PREFECTURE RICE--Despite adverse weather, Sanming Prefecture, Fujian Province, has reaped a bumper harvest of early rice in this year. The total output of early rice reaped on the prefecture's 1.4 million mu of rice fields was 740 million jin, or 23 percent more than 1981. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 5 Aug 82 OW]

LONGXI PREFECTURE EARLY RICE--Longxi Prefecture, Fujian Province, has scored a bumper harvest from its 1.7 million mu of early rice fields with a per-mu output higher than last year. Total output reported by Zhangzhou municipality and Changtai, Yunxiao, Nanjing, Pinghe and Huaan Counties all topped last year's records, the increase ranging from several hundreds of thousands to some 4 million jin. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 6 Aug 82 OW]

CSO: 4007/526

BRIEFS

ANIMAL HUSBANDRY--Guangdong achieved all-round development in animal husbandry in the first half of the year. The number of pigs at the end of June showed an increase of 880,000 over the figure for the beginning of the year, a rise of 4.6 percent. Total pork procurement increased by 15.87 million jin, a rise of 5.9 percent. The number of cattle increased by 335,000, a rise of 8.4 percent. The province now has 100,000 households specializing in raising poultry or rabbits. Some households have raised more than 100 pigs or several score cattle. [HK280739 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 28 Jul 82]

CSO: 4007/511

BRIEFS

ANIMAL HUSBANDRY--By the end of June Guangxi had 4.43 million cattle, horses, mules, donkeys and goats, 199,000 more than at the same time last year. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 28 Jul 82 HK]

CSO: 4007/511

BRIEFS

GRAIN PROCUREMENT--Despite the many natural disasters and decline in wheat production this year, the rural cadres and peasants in Hebei have done a good job in grain delivery to the state. By 21 July, the province had procured 1.4088 billion jin of summer grain, overfulfilling the procurement quota. In Shijiazhuang Prefecture 580,290,000 jin have been procured, accounting for 41 percent of the provincial total. [HK290427 Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 23 Jul 82]

CSO: 4007/511

HAILUN EXPLORES AGRICULTURAL MODERNIZATION

OW031319 Beijing XINHUA Domestic Service in Chinese 0021 GMT 3 Aug 82

[Report by XINHUA Correspondents Sun Minghui, Jing Bo and Wang Changkuan]

[Excerpts] Harbin, 3 Aug (XINHUA)--HINHUA editor' note: What after all is the Chinese way of agricultural modernization? For some time people have done numerous theoretical studies on the subject. Now, Hailun County has made some valuable practice exploration.

Speaking of agricultural modernization, some people's first thought is to invest a lot of money, import complete sets of advanced equipment and one-sidely pursue "modernization" in one way or another. Judging from our country's actual conditions, our agriculture in the future will probably be of the labor-intensive and knowledge-intensive type, not the high energy consuming or highly automated type of agriculture. Proceeding from actual local conditions, Hailun County has taken a road of agricultural development characterized by relying mainly on biological measures; combining biological measures with mechanical measures and other technical measures; all-round development of farming, forestry, animal husbandry and sideline production; engagement in integrated agricultural-industrial-commercial operations; and mutual promotion of science, education and economy. Without much investment and without consuming huge amounts of energy, this road may lead to the initial achievement of what experts regard as agricultural modernization's two goals: to improve the agroecological system and to develop agricultural production in all-round way. Of course, our country has a vast territory and natural and social conditions differ greatly. The Hailun County experience is born on the soil of the Song-nen Plain. With people practicing and exploring, more broad roads will be found for our country's agricultural modernization. (End editor's note)

Hailun County, Heilongjiang, has conducted scientific experiments in agricultural modernization for only 3 years, and not only have gratifying changes taken place in the whole county's agricultural production and ecological system, but a road to develop agriculture has been initially found which requires little investment, shows quick results, yields high returns and gives real benefits to peasants. The county has gained important experience in exploring a road toward a Chinese way of agricultural modernization.

Hailun County is located on the Song-nen Plain in central Heilongjiang and, climatically, it belongs to the temperate zone. The land is fertile and rainfall is quite plentiful. The per capita acreage of farmland in the county is five mu. The natural conditions for agricultural production are quite good. Since the late 1950's however, due to the influence of "left" thinking, forests and grasslands here were destroyed to reclaim farmland and, as a result, there was increasing ecological deterioration and frequent natural disasters, and agricultural production growth was slow, per mu grain output increasing by only a few dozen jin in more than 20 years.

In 1978, the Heilongjiang Provincial CCP Committee and the Chinese academy of sciences organized more than 100 agricultural specialists and senior and middle-level scientific research and teaching personnel to conduct comprehensive scientific experiments for agricultural modernization together with Hailun County's cadres and masses. In only 3 years the situation has changed. Comparing the average figures for the 3 years between 1979 and 1981 when scientific experiments in agricultural modernization were being conducted with the 3 years before the experiments, total grain output increased by 14 percent, marketable grain sold to the state increased by 35.9 percent, the total agricultural output value increased by 22 percent, and other farm and sideline products, such as hogs, cattle, sheep, milk, beets and flax increased by even greater margins. Collective accumulation and commune members' income also showed great increases.

In conducting scientific experiments for agricultural modernization, the agricultural specialists and the Hailun people have focused their work on "adapting to China's conditions" and especially on "adapting to the conditions of the Song-nen Plain in northeast China," and broken away from many of the old ideas on agricultural modernization.

First, whenever people talked about agricultural modernization in the past, many felt that it could not be done without heavy investment. Since Hailun County began conducting scientific experiments in agricultural modernization, it has never asked the state for extra investments, nor has it received more bank loans than the average level received by all counties in Heilongjiang. Mainly by rationalizing the production structure, which resulted in considerable improvements in the ecological environment and production conditions, and simultaneously bringing into full play the role of advanced agricultural technology, agricultural development has been accelerated.

Second, whenever people talked about agricultural modernization in the past some wanted to import a lot of advanced equipment or simply concentrate on engineering and construction, one-sidedly pursuing "modernization" in one way or another. Hailun County has proceeded from actual conditions and adopted the practice of combining biological measures with mechanical measures and other technical measures, with empahsis on biological measures.

Based on the agricultural specialists' recommendations, Hailun County has vigorously readjusted the proportions between agriculture, forestry and animal husbandry and within agriculture itself, and accelerated the development of the two "short legs": Forestry and animal husbandry. Beginning in 1979, they have carried out three major readjustments in crop patterns according to local conditions turning more than 400,000 mu of scientifically unsuitable grain fields into fields growing cash crops--mainly soybeans, forage grass and other forage crops. At the same time, they have actively planted trees under a unified plan according to needs, including water and soil conservation forests on tracts of sloping farmland and shelter forests in selected areas on vast stretches of flat land, and distributed lowlying lands to commune members to grow trees for fuel. In 3 years, the county has afforested 200,000 mu of land, over 50,000 mu more than the total area afforested in the previous 28 years. During the same period, animal husbandry has also grown correspondingly. As of the end of 1981, the county's sheep, milch goats and milch cows increased 5 to 15 times the numbers in 1978.

Hailun County emphasizes biological measures, but it does not ignore the adoption of mechanical measures and other technical measures. In the past few years, they have selectively bought more than 400 large and medium-sized tractors and more than 2,000 hand-guided tractors on the basis of requirements and affordability.

Third, when people talked about agricultural modernization in the past, they often only gave consideration to the adoption of new technology. While adopting technical measures, Hailun County has also paid attention to reforming the economic structure, stressed scientific management and strived for the greatest possible economic results.

To achieve agricultural modernization, it is imperative that commodity production is developed. In the past few years, Hailun County has paid attention to developing processing industries using farm and sideline products as raw materials, enlivening circulation channels and building a rational economic system which consists of cropping, breeding, processing and integrated agricultural-industrial-commercial enterprises while regarding this as an important part of agricultural modernization.

Fourth, Hailun County has paid great attention to the important role of tapping the intellectual resources in carrying out agricultural modernization. They hold that "without first rate technically competent peasants, there can be no first rate modern agriculture." Here, many communes and production brigades are willing to spend money on training competent people. The county is presently running a rural construction school for the rotational training of technicians and commune and brigade cadres, and the communes and production brigades have generally set up technical training classes or technical night schools. As many as 100,000 young and middle-aged people, more than a half of the country's young and middle-aged peasants, are regularly studying at these classes and schools. More than 10,000 peasant-technicians have received training. They are active on the production frontline and in scientific experiments and have become the backbone force in agricultural modernization.

CSO: 4007/511

BRIEFS

DAIRY FARMING--Harbin, 26 Jul (XINHUA)--Heilongjiang Province has become China's largest dairy products center, following the establishment of dairy cattle farms in 60 cities, counties and state farms since 1979, according to the provincial light industrial department. The province produced 11,500 tons of dairy products in the first half of this year, a 35.2 percent increase over the same period in 1981, the department reported. The products include powered and condensed milk, butter and cream. Last year the province's output of dairy products came to 18,500 tons, 110 percent more than in 1978. The department attributed the increase to encouraging rural collective units and individuals to raise milk cows and increasing the purchasing price for fresh milk. With 3.33 million hectares to grasslands and pasture land, Heilongjiang now has 114,000 head of milk cows, 83.9 percent more than in 1978. [OW281203 Beijing XINHUA in English 0243 GMT 26 Jul 82]

TIMBER OUTPUT--Forestry areas in Heilongjiang Province have made progress in producing timber from tree branches. In the first half of 1982, the province turned out 262,900 cubic meters of timber of this kind, a more than 148,000 cubic meter increase over the output of the corresponding 1981 period. [SK251020 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 23 Jul 82]

SOYBEAN PROCESSING PLANTS--Three self-designed and self-constructed soybean processing plants were recently commissioned in Harbin, Qiqihar and Jixi Municipalities. The three large-sized modern soybean processing plant have a combined daily processing capacity of 480 tons of soybeans. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 22 Jul 82 SK]

PROLONGED HIGH TEMPERATURE--Heilongjiang Province's summer high temperature arrived early this year and continued longer than usual, breaking a 30-year record for this period. Coupled with high temperature was weather characterized by little rain, dry hot air, low humidity and rapid evaporation, which definitely affected industrial and agricultural production and peoples' lives. On 10 July, the provincial weather bureau predicted that high temperatures will continue until after mid-July and rain precipitation will increase in various areas in the province beginning late July. Temperatures will also fall by then. The weather bureau attributed the consistent high temperature to a prolonged high pressure in Central Asia and a warm air mass moving eastward from Qinghai-Tibetan Plateau. High temperatures and low precipitation were the main characteristics of this summer's weather in Heilongjiang, according to the provincial weather bureau. [Excerpts] [Harbin HEILONGJIANG RIBAO 11 Jul 82 p 1]

CSO: 4007/528

BRIEFS

PREFECTURE'S GRAIN PROCUREMENT--By 28 June, Nanyang Prefecture had stored 585.04 million jin of summer grain in granaries. Deng, Tanghe, Sheqi, Xinye and Zhenping Counties and Nanyang Municipality have overfulfilled their grain procurement quotas for this year. Deng and Tanghe Counties have stored more than 100 million jin of summer grain in granaries. Every person in Sheqi County sold an average of 148 jin of grain to the state. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82 HK]

NATURAL PROTECTION ZONES--To protect rare wild animals and develop and utilize natural resources, the Henan Provincial People's Government recently decided to set up 13 natural protection zones in the province. These 13 natural protection zones are 12 state-owned forest zones in Song, Xixia, Luanchuan, Lushan, Nanzhao, Shangcheng, Xin, Luoshan, Tongbai, Xinyang, Jiyuan and Lingbao counties and 1 collective forest zone in Jiyuan County. The total area of the natural protection zones is 1.278 million mu. Wild animals and plants abound in these natural protection zones. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82 HK]

GRAPE PRODUCTION BASES--The Henan Provincial CCP Committee and the provincial people's government recently decided to build 1 million mu of grape production bases in 18 counties in Shangqiu, Kaifeng, Zhoukou, Anyang and Xinxiang Prefectures and in the suburbs of Zhengzhou and Kaifeng Municipalities. They have also planned to build a fermentation township in every 5,000 mu of vineyards and a brewery in every 30,000 mu of vineyards. The motion on building grasp production bases was put forward by Dai Suli, secretary of the provincial CCP Committee and governor and He Zhukang, vice governor. According to the plan, the province will now begin to make preparations for building 1 million mu of grape production bases and will complete this work by 1985. It is estimated that the average annual output of grapes per mu will be 1,500 jin, and as the price of every jin of grapes is .25 yuan, the income from 1 million mu of vineyards will be approximately 400 million yuan. [HK090245 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82]

CSO: 4007/511

BRIEFS

PIGS--Pig production revived and developed in Hubei during the first half of the year. According to statistics, the number of pigs in the province at the end of June exceeded 15 million, an increase of 160,000 compared with the same time last year. Stocks of pork have greatly increased in Wuhan, Huangshi, Shiyan, Shashi and Xiangfan Municipalities. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 23 Jul 82 HK]

PEASANT INVESTIGATION--The provincial statistics bureau recently investigated the domestic economic conditions of 948 peasant households in various counties. The investigation showed that their average cash income per individual in the first half of the year was 93 yuan, an increase of 32 yuan over the same period of last year, while average cash expenditures per individual were 94 yuan, an increase of 31 yuan. Cash income from their sales of agricultural, forestry, animal husbandry, sideline products and fisheries produced average 35 yuan per individual, an increase of 10 yuan compared with the same period last year, while they spent an average of 72 yuan per individual on buying industrial products, an increase of 25 yuan. [HK021244 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 30 Jul 82]

CSO: 4007/511

BRIEFS

HUNAN GRAIN CROP HARVEST--Hunan Province reaped a bumper harvest of 1982 spring-summer harvested grain crops. According to the estimate by the concerned departments, the total output of these crops increased by 5.9 percent over 1981's. Hunan Province's major spring-summer harvested grain crops are wheat, broad beans, peas and potatoes. After planting some of these crops last winter, various locations strengthened cultivation management and applied overall mud fertilizer. As a result, the kernels are full and healthy, increasing the weight by the thousands of kernels. The total output of spring-summer harvested grain crops in Changde, Lianyuan, Yueyang and other prefectures is 10 percent higher than 1981's. [Beijing BEIJING RIBAO 15 Jul 82 p 4]

CSO: 4007/525

EFFORTS MADE TO RAISE FARM YIELDS IN HU-HUAI AREA

Beijing ZHONGGUO NONGMIN BAO in Chinese 9 May 82 p 1

[Article: "Bring Out the Potential for Increased Output of Medium- and Low-Yield Areas:]

[Text] Suiting measures to local conditions, the Xu-Huai area in Jaingsu Province has extensively popularized experience in intensive cultivation of high-yield areas and has brought out the potential for increased output of medium- and low-yield areas. Last year the total grain output was 15 percent higher than in the big harvest year of 1979, and in some places the level of intensive cultivation approached or exceeded that of southern Jaingsu.

The Xu-Huai area in northern Jaingsu roughly includes the three prefectures of Xuzhou, Huaiyin, and Yancheng. At the time of liberation, it was a dry grain crop area and very little paddy rice was planted. Water conservancy projects were built at the beginning of the 1950's and paddy rice production was not high. In 1978 it was no more than 300 to 400 jin, and was much lower than in the high-yield areas of southern Jiangsu. The reason for this was that field cultivation and management were relatively extensive. For this reason, the leaders at all levels in the Xu-Huai area paid much attention to the experience of high yields in southern Jiangsu and, suiting the experience to local conditions, popularized it.

After the 3d Plenary Session of the 11th CCP Central Committee, because the production responsibility system was set up on a widespread scale and was being continuously perfected, the demand by the peasants in the Xu-Huai area to learn intensive cultivation techniques became more imperative. This area is suitable for rational crop rotation, viz, 2 crops in 1 year consisting of rice and wheat, and 3 crops in 2 years consisting of rice, wheat, and green fertilizer. Over the past several years, there has been extensive popularization of Suzhou Prefecture's measures of intensive cultivation, viz, breeding sturdy seedlings, leveling land, having one irrigation ditch and one earth bank, straining salt through water, and using fertilizer to repress alkali, so that in the Xu-Hua area the acreage of paddy rice has been expanded by an average of about 1 million mu a year. In 1979, the per unit area yield of paddy rice in Huaiyin Prefecture was 400 jin; last year the 500 jin barrier was broken. The total grain output of the three prefectures last year was the highest in history and was 2.8 billion jin more than in the big harvest year of 1979. Last year Huaijin Prefecture increased its grain output by 1.4 billion jin. With the increased grain output and the development of a diversified economy, the income of the peasants has risen rapidly and their life has continually improved. In Sihong County, the average income distribution rose from 42 to 121 yuan, and in Xuyu County it rose from 60 yuan to 173 yuan.

The large-scale agricultural output increase in the Xu-Huai area guarantees a province-wide growth in agricultural output. Supported by the provincial party committee and the departments concerned, the peasants adopted the following relatively useful measures.

1. Cadres from agriculturally advanced areas have been transferred to the Xu-Huai area, and in its thinking the leadership has attached importance to the popularization of advanced experience. At present, the princial responsible persons on the party committees of the three prefectures are persons who had been transferred from southern Jiangsu, and once 50 communes secretaries were transferred at one time.

2. Agrotechnical cadres from southern Jiangus have been invited to come to the Xu-Huai areas and pass on experience, or the Xu-Huai area has sent technicians and cadres to southern Jiangsu to study and to actively take part in the province's annual agrotechniques exchange activities between the northern and southern areas of Jiangus. Also, every year Chen Yongkang [7115 3057 1660], a peasant paddy rice expert, is invited to come to northern Jiangsu to help solve problems encountered in paddy rice production.

3. In academic thinking, the strategic significance of developing the Xu-Huai is clearly recognized. Last year, the provincial scientific and technological association organized over 90 experts and scholars from 14 learned societies--including those on agronomy, water conservancy, forestry, soils, weather, silkworm mulberry, aquatic products, and animal husbandry--to go to the Xu-Huai area and conduct on-the-spot investigations. After comprehensive analyses, they proposed that the Xu-Huai area be built into a base for the production of diversified agricultural commodities.

9727
CSO: 4007/241

COMMENTARY ON DEVELOPING MEDIUM-, LOW-YIELD AREAS

Beijing ZHONGGUO NONGMIN BAO in Chinese 9 May 82 p 1

[Article: "Vigorously Develop Medium- and Low-Yield Areas"]

[Text] According to statistics compiled by the departments concerned, high-, medium-, and low-yield areas each roughly make up one-third of the country's cultivated land. In per unit area yield, the highest for grain is over 1 ton and for ginned cotton several hundreds of jin; the lowest for grain is several tens of jin and for cotton between 10 and 20 jin. The differences are extremely large. Therefore, the problem of how to bring out the potential of medium- and low-yield areas has drawn people's attention more and more.

In medium-yield areas, more often than not the natural conditions are good and there is adequate technology, and so long as these areas are conscientiously developed the production features can swiftly change. At present, they are the areas where there is the greatest potential for increased production. The experience of Xu-Huai were, first, the masses were enthusiastic; second, the leadership was determined; third, the technical personnel played their role; and fourth, attention was paid to suiting measures to local conditions. This suiting of measures to local conditions was very important. It is possible that in medium- and low-yield areas there are high-yield communes and production teams, and it is also possible that in medium- and low-yield communes and production teams there are high-yield plots. Therefore, while introducing advanced experiences from outside, a given locality must sum up its own advanced experiences and learn from others' strong points to offset its own weaknesses in order to obtain better results.

Of course, while developing medium-yield areas, we must also get a good grip on high- and low-yield areas. High-yield areas have always made big contributions to the state. To maintain high and stable yields, and to work hard for increases amid stability--this is what high-yield areas should be able to do. And although it is difficult for the low-yield areas where production conditions are very poor to suddenly catch up with the high-yield areas, they must summon up their spirits and, on the foundation of solving the problems of their people having enough to eat and wear, strive hard to improve their production conditions and do all they can to change the features of production as quickly as possible.

9727
CSO: 4007/241

BRIEFS

RICE MEETINGS--Recently the Jiangsu Provincial Agricultural and Forestry Department held meetings on paddy rice field management in Jianhu and Yancheng counties. Attending the meetings were nearly 100 leaders and technical cadres in charge of rice production. They pointed out that this year Jiangsu has only 36.4 million mu of double-cropped paddyfield, or some 900,000 mu less than last year, and this, plus other problems such as plant diseases, insect pests and insufficient supply of chemical fertilizers will make it a not easy task to achieve a bumper harvest this year. For this reason, they said, all-out efforts should be made to strengthen field management so as to overcome the difficulties and ensure a good harvest. [OW010456 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 3 Jul 82]

COTTON MEETINGS--The Jiangsu Provincial Agricultural and Forestry Department recently held on-the-spot meetings in Dongtai and Judong Counties on management of cotton fields. Comrade Zhou Ze, secretary of the provincial CCP Committee and concurrently vice governor of the province, addressed both meetings. The meetings stressed the necessity to strengthen cotton field management with particular attention to controlling cotton diseases and insect pests. This year Jiangsu Province has nearly 10 million mu of cotton, which, according to the meetings, are in fine growing condition. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 14 Jul 82 OW]

HUAIYIN COUNTY WHEAT PRODUCTION--Huaiyin County, Jiangsu, reaped more than 174 million jin of wheat, barley and naked barley this summer, an increase of 20 percent over last year. The county's total rapeseed production amounted to 10 million jin, about 200 percent higher than last year's output. [OW100627 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 3 Jul 82]

JIANGSU SUMMER GRAIN PROCUREMENT--Jiangsu Province made a breakthrough in summer grain procurement. The province has procured 5 billion jin of summer grain, overfulfilling the quota ordered by the state by 56 percent. This is unprecedented in the province's summer grain procurement history. [Beijing RENMIN RIBAO in Chinese 2 Aug 82 p 1]

CSO: 4007/527

BRIEFS

DUCHANG COUNTY RICE--Jiangxi's Duchang County has reaped a bumper early rice harvest this year with per-mu output increasing by over 20 percent over last year and total output reaching 221.6 million jin, an increase of 19 percent over last year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 8 Aug 82 OW]

GUANGFENG COUNTY RICE--Jiangxi's Guangfeng County has had a bumper harvest from its 258,000 mu of rice fields. Output is expected to reach 188.34 million jin, increasing by 11.38 percent over 1981, with average per-mu yield of 730 jin. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 8 Aug 82 OW]

CSO: 4007/526

BRIEFS

GRASSLANDS IMPROVEMENT URGED--The animal husbandry general bureau of the Ministry of Agriculture, animal husbandry and fisheries held an on-the-spot meeting on grassland improvement in Daan County in Jilin Province on 23 July. Grassland experts from various provinces visited Daan County's pastures. The usable grassland in Daan County declined from 4.26 million mu in 1949 to 2.25 million mu in 1982. The rate of increase of draft animals decreased from 15 percent in the 1950's to 2 percent in 1982. To divert grassland degeneration, the county added 440,000 mu of man-made pastures and planted 13,000 mu of grass and recently decided to plant grass on 150,000 mu of alkaline land. [SK260550 Changchun Jilin Provincial Service in Mandarin 1100 GMT 25 Jul 82]

CSO: 4007/511

BRIEFS

AFFORESTATION--As of 22 July, Liaoning Province had afforested 280,000 mu. Chaoyang Prefecture has so far leveled 87,000 mu of land for afforestation. Other municipalities such as Jinzhou and Dalian are also engaged in levelling land for afforestation during the rainy season. [SK270657 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 26 Jul 82]

CSO: 4007/511

BRIEFS

WHEAT OUTPUT--Bayannur League, Nei Monggol autonomous region, is expected to reap a bumper wheat harvest this year. As of 19 July, the league had harvested over 200,000 mu of wheat crop. In 1982, the league sowed over 1.8 million mu of wheat, a 125,000 mu increase over the 1981 acreage. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jul 82 SK]

LIVESTOCK OUTPUT--Ju Ud League, Nei Monggol autonomous region, has reaped a bumper harvest in animal husbandry this year. The league has had 6.72 million head of animals, a 300,000 head and 22.9 percent increase over the 1981 figure. Meanwhile, Jirem League has also scored achievements in raising cattle. The league has 925,057 head of cattle, a 67,846 head increase over the 1981 figure. Since 1981 Jirem League has sold 77,054 head of cattle to the state and exported 24,000 head of cattle. [SK250800 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jul 82]

ANIMAL HUSBANDRY--Alxa League, Nei Monggol region, witnessed productive camel breeding in the first half of 1982. The total number of camels reached 251.475 head, the highest figure in history. This league has also allocated 85.88 million jin of fodder grass to feed camels and transferred 34,000 head to grazing in other localities. [SK270654 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Jul 82]

ANIMAL HUSBANDRY--Xilin Gol League, Nei Monggol region, experienced productive livestock breeding in the first half of 1982. The total number of livestock reached 7,819,000, an increase of 670,000 head or 30.8 percent. The total number of livestock in Bayannur League reached 1,725,000 in the first half of 1982, an increase of 170,000 head. Ju Ud League sheep breeding farm has turned out 87,540 head of fine wool sheep and 2,561,700 jin of fine wool to the state in the past 23 years since its founding. [SK260215 Hohhot Nei Mongool Regional Service in Mandarin 1100 GMT 25 Jul 82]

LIVESTOCK OUTPUT--Jirem League in Nei Monggol autonomous region scored remarkable achievements in livestock production in the first half of 1982. According to statistics, the league had over 3,581,500 head of young and grown animals, an over 695,200 head increase over the number of the corresponding 1981 period. While registering increases in the number of sheep and cattle, the league has also increased output in raising hogs since June 1981. By the end of June, the league had over 1,668,600 heads of hogs. [SK220408 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 Jul 82]

ANIMAL HUSBANDRY--Alxa League, Nei Monggol region, has witnessed productive livestock breeding in 1982. The total number of livestock reached 1,875,867 head, an increase of 275,861 head above plan. [SK031128 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Aug 82]

GRASS PLANTING--Taking advantage of the rainy season, Nei Monggol is speeding up grass planting. So far the region has planted 1.5 million of grass. The region plans to plant 3 million mu of grass this year, about 1 million mu more than 1981. [SK280555 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 27 Jul 82]

CSO: 4007/511

BRIEFS

LIVESTOCK BREEDING--Yinchuan, 27 Jul (XINHUA)--The Ningxia Regional Animal Husbandry Bureau reports that the total number of sheep and large farm animals has increased in the stockbreeding year of 1982 (June 1981--June 1982). Ningxia region, one of China's major pastoral areas, was hit by sandstorms, snowstorms and a dry spell last winter and this spring. There has not been a saturating rain since January this year in the area, yet the number of sheep was up by 13 percent over last year's livestock totalling 3.27 million. The number of large farm animals used for hauling, including cattle, horses, donkeys, mules and camels, rose by 5.6 percent from last year's 570,000. The new production responsibility system was first put into practice in the region in 1980, and since then herdsmen have taken particularly good care of the sheep for which they were personally responsible by contract. The lambing rate and survival rate all have increased since then. [Text] [OW281205 Beijing XINHUA in English 0747 GMT 27 Jul 82]

CSO: 4020/154

BRIEFS

FARM-MACHINE SALES INCREASED--In the first half of 1982, sales in farm machinery throughout Shandong Province reached more than 446,711,000 yuan, topping the peak of the previous period. The sales of farming power, drainage and irrigation machinery increased 62 percent over the figures of the corresponding 1981 period. This year the province has enjoyed brisk sales in small-sized and semi-automatic machines. [SK240609 Jinan Shandong Provincial Service in Mandarin 2300 GMT 22 Jul 82]

TOBACCO OUTPUT--In spite of a serious drought, Shandong Province has reaped a bumper harvest this year over its more than 1.5 million mu of tobacco crops. As of 21 July, the province had procured over 420,000 dan of tobacco leaves, over a 3-fold increase over the output of the corresponding 1981 period. The government also grants an 8-yuan increase per dan in the procuring price. [SK250804 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 Jul 82]

CSO: 4007/511

SICHUAN ISSUES NEW RURAL ECONOMY REGULATIONS

HK261401 Chengdu SICHUAN RIBAO in Chinese 14 Jul 82, pp 1, 2

[Report: "Provincial CCP Committee and Government Lay Down 10 Policy Regulations to Suit the New Situation and Speed Up Rural Economic Development"]

[Text] The Sichuan Provincial CCP Committee and the Sichuan Provincial Government, issued, on 29 June, the "policy regulations on certain questions concerning speeding up our province's rural economic development." The document read:

In order to speed up rural economic development in our province, while continuing to implement a series of effective policies laid down by the central authorities and by the provincial committee, it is necessary to adopt some policies and measures which are suited to the new conditions. After thorough discussion in the work meeting of the provincial committee, the provincial CCP Committee and the provincial government have made the following policy regulations.

1. In the course of implementing the "two systems" in forestry, localities, wherever conditions permit, should all appropriately increase private mountains assigned to peasants. Barren hills, waste hillside land and scattered plots which are not suited to collective management should be assigned to peasant households for planting trees. The collectives will maintain land ownership while woods and trees should be owned by the peasants and can be inherited. It is necessary to energetically encourage peasants to develop small orchards, mulberry fields, tea plantations or plant other economic woods on scattered plots, private hills and other plots specified by production teams. Income from these operations should belong to the peasants. This should remain unchanged for a long time to come. The state and the collectives should actively support peasants by providing seedlings and technical guidance. Whole tracts of woods owned by the collectives should be subject to the system of "four-specialization and one-contract." Economic woods around farmland should be contracted to the peasants together with the farmland. Measures like combining unified management with separated management, laying down quotas for income turned over to higher authorities in contracts and sharing out income in certain proportions, should be adopted, so as to allow direct operators to earn more if they yield more. Waste hillside plots suited to be handled by collectives can be handled by special teams and groups organized by production teams. They can also be assigned and contracted to peasant households for planting trees. Once the contracts are fixed, they will be kept for a long time to come. Gains

should be shared out between the collective and the peasant, with a large portion retained in the hands of the peasant.

2. The conservation of state-owned forests which the state is not able to manage and conserve can be contracted to local production teams and reasonable remuneration should be give to these teams. The trees planted along railroads, highways, rivers and canals and around reservoirs should be carefully protected. Units in charge of the areas along railroads, highways, rivers and canals or around reservoirs can plant trees and own the trees in these areas. They can also plant trees by cooperating with local communes and teams, with gains shared out among the parties concerned. The nearby communes and teams can also afforest these areas after the departments in charge agree. In that case, forests are owned by communes, teams or peasants, but tree-felling must be conducted in accordance with the regulations concerned laid down by the departments in charge.

3. In mountainous areas, capital construction of farmland must be stepped up to increase per area unit yeild. It is first necessary to guarantee a stable growth in gross grain output. At the same time, fields on steep slopes where farming should gradually give way to forestry or animal husbandry can be specified as reserve land by the production teams and contracted to special groups and households for planting trees and grass. As for those which have been contracted to peasants as "responsibility fields," as long as the accomplishment of assignments laid down by higher authorities is guaranteed, contractors can plant trees on these fields which are contracted to them for a long time and keep the gains for themselves. Or as alternative, collectives can provide seedlings to contractors or offer certain rewards, while gains are to be turned over to the collectives according to the quotas or shared out with a large proportion going to the peasants.

4. The provincial party committee decided in 1980 that, from 1981 on, "the provincial financial department will allocate 15 million yuan a year to remote areas, including the remote mountainous areas, as subsidies to the communes and teams there for planting 1 million mu of rapid-growing high-yield commercial forrests." In the same year, the provincial government issued a document and made concrete plans for this. This is an important policy for speeding up forestry construction in remote areas of our province. It has won popular support. The department concerned has carried out an inspection on last year's implementation and this year's plan and arrangement. They have resolved some problems, so as to guarantee the continual implementation of this policy. The forestry funds and development funds should be confined to being used for afforestation. Their use for other purposes is prohibited.

5. In 1980, the provincial party committee decided to offer 395 million jin of grain subsidies to support the rehabilitation of communes and teams in mountainous areas, impoverished areas and minority nationality regions, so that they could readjust agricultural structure and develop production. Practice has proved that this is effective. The original plan was to carry out this measure for a period of 3 years. Now, it is decided to extend the time to 1990. Quotas of grain subsidies distributed by the provincial authorities to prefectures, municipalities and autonomous prefectures will remain unchanged. But prefectural

and municipal authorities can appropraitely adjust quotas they issue to counties on the basis of rationalizing the use of these subsidies to suit the changed conditions in production development. The same goes for county authorities to communes and teams. These grain subsidies should be unifiedly arranged by county authorities. They should be mainly used for offsetting the reduction in grain purchase from the production teams where farming is giving way to forestry and animal husbandry or grain output is low and where grain is in short ration. The grain subsidies can also be used to subsidize the construction of bases for forestry, animal husbandry and other diversified undertakings. Generally, the purchase of agricultural, sideline and native products should not be linked with grain.

6. In order to give more decisionmaking power to the counties in mountainous areas in tackling the grain problem, so as to facilitate the readjustment of the agricultural structure, it is decided that the responsibility system of controlling grain within a specified quantity will be put into effect in the big counties in mountainous areas (not including those in the three autonomous prefectures). On the basis of current differences in grain purchasing and marketing in the areas concerned, some of these counties will be required to turn over grain by quotas to higher authorities, some can be provided with grain subsidies by quotas, while others will be required to realize grain self-sufficiency. The corresponding financial responsibility system will also be exercised in these counties. This measure will be maintained for the next 5 years.

The counties in mountainous areas where financial deficits could not be removed for many years running are now required to try out the financial subsidy responsibility system. Under this system, a fixed amount of subsidy which is equal to the deficit in the 1982 budget will be allocated to a county concerned in each of the next 3 years. Henceforth, financial surplus there can be controlled by the counties and should mainly be used for developing the economy in mountainous areas, highway construction, cultural and educational undertakings and the popularization of science and technology. After this responsibility system is put into effect, new items laid down by higher authorities which give rise to increases in expenditure or reduction in income should all be undertaken by these counties except the salary adjustment in administrative institutions which will be borne by the provincial authorities. The provincial authorities will put the above principle into effect in Peiling, Wanxian and Yaan Prefectures where financial expenditure exceeds income. These prefectural authorities can decide specific methods to exercise the financial responsibility system in their counties. As for other deficit-incurring counties in mountainous areas, financial responsibility system quotas will be laid down by the prefectural authorities. The province will maintain the current financial system between the province and these prefectures. But the province will exclude the financial surplus in the counties where financial responsibility system is in effect when it workd out financial targets for these prefectures.

7. Agricultural and sideline products will be purchased on the basis of quotas or proportions. The policy in this aspect must be stable. The contract system should be earnestly perfected. Targets laid down by the state for unified purchase, assigned purchase and transfer of agricultural and sideline products

must be fulfilled. The right of the collectives and the peasants to dispose of the portion of products specified in the policy should also be guaranteed. In this aspect, the specific stipulations laid down by the provincial party committee and the provincial government.

8. For speeding up rural economic development, it is necessary to carry out various forms of integrated and joint undertakings. Under the principles of voluntary participation, mutual benefit, equality and consulation, joint-ventures and integrated undertakings in various forms between different regions and trades and between economic units under differnet ownership forms should be encouraged and developed. The units participating in joint ventures and integrated undertakings will maintain their ownership forms, subordinate relationships, their position as basic accounting units and the relationships in payment of taxes and transfer of profits. Their output value and taxes imposed on them will be calculated on the basis of basic accounting units. Party committees, governments and the departments concerned at all levels should strengthen planned guidance of integrated enterprises in various forms, prevent duplication in guilding factories and help them coordinate all aspects of the relationships in the distribution of economic interests. By organizing integrated undertakings and taking other forms to carry out economic and technical cooperation, planning councils, economic councils and the state-owned enterprises concerned at all levels should help counties in mountainous areas and minority nationality regions develop the processing industry and mining industry and handle primary processing and multipurpose use of products. The experience of Qionglai, Dazhu, Hechuan and Gulin Counties in handling integrated undertakings should be summed up and promoted. At the same time, it is necessary to energetically develop various special households, key households and associated households in rural areas, support peasants' household sideline occupations and encourage peasants to get rich by working hard.

9. In order to train various types of technical personnel with professional knowledge for rural construction, it is necessary to step up the reform of the secondary education system in rural areas. It is required that most of the counties should transform one of the existing ordinary secondary schools into a vocational secondary school (not responsible for assigning work to students after graduation) within 2-3 years. At the same time, vocational classes should be run in ordinary high schools and professional courses should be offered there. Vocational schools transformed from ordinary schools will receive their funds through the former channels and be managed unifiedly by the educational department and they will be provided with more professional teachers. The departments concerned should organize some professional technicians to work as part-time teachers in these vocational schools. They should also offer their support by providing training places and requisite experiment equipment. All professional departments can run various short-term technical training classes according to needs.

10. In order to replenish and strengthen the cadre ranks at the commune level, besides following the three measures put forth by the provincial party committee earlier this year, vacancies in the commune leading organs can be filled by selecting some capable personnel from the commune cadres still engaged in production on a part-time basis and from excellent cadres of brigades and teams

with party membership. They should be young and strong, have good educational and technical backgrounds and pass strict tests. (The three measures put forth by the provincial party committee earlier this year are as follows: 1. Selecting some technical secondary schools graduates in agronomy, forestry, hydraulic engineering and finance every year and assign them work in the commune organs. 2. From the personnel who fill the staff quotas left by retiring cadres, selecting those who are promising and meet the requirements for cadres to work in the commune organs after giving them overall tests. They will still be treated as workers and continue to be temepred and tested in the first 2 years, and after that, those who are outstanding can be promoted as commune cadres. 3. From enterprises, institutions and administrative organs, selecting some of the excellent agricultural technical personnel and young cadres to strengthen the commune cadre ranks.)

At the end, the document said: If something in the documents issued by the provincial party committee and the provincial government in the past does not conform with the stipulations in this document, the norms for future work should be the regulations in this document. Party committees and governments at all levels and the provincial departments concerned should work out specific measures and methods in accordance with the above regulations and guarantee their implementation.

CSO: 4007/511

BRIEFS

PIGS--By the end of June, Sichuan had 51 million pigs, 920,000 more than at the beginning of the year. The trend for the number of sows to decline has been reversed, since there were 3.36 million at the end of June, 110,000 more than in January. During the first half of the year 12.32 million porkers were marketed, 230,000 more than in the same period last year. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 28 Jul 82 HK]

CSO: 4007/511

BRIEFS

SUMMER-AUTUMN CROPS--The serious drought has resulted in the reduction of summer crop output in Taianjin. To make up the reduction with the increase in autumn crops, Tinajin has expanded the acreage sown in coarse food grain by 150,000 mu and the acreage sown in high-yield corn by 430,000 mu. Among the 680,000 mu of cornfields in Wuquing County, 90 percent are of fine strains. Thanks to the fainfall on 12 June, the drought in most areas has been relieved, but some areas still suffer from drought. [SK220433 Tianjin City Service in Mandarin 0030 GMT 22 Jul 82]

CSO: 4007/511

ZHEJIANG

BRIEFS

HOG PROCUREMENT--As of the end of June, 5,539,700 hogs had been purchased from Zhejiang Province, fulfilling 58.3 percent of the annual procurement plan and topping the record for last year's corresponding period by 26,000 head. During the first half of this year, 3.86 million hogs were butchered for the province's meat market. [Hangzhou Zhejiang Ribao in Chinese 13 Jul 82 p 1 OW]

CSO: 4007/511

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ORG: Rice Breeding Station of Fengxin County, Jiangxi Province

TITLE: "Breeding of Upland Rice Varieties by Means of Irradiation"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 1, 1982 pp 15-21

TEXT OF ENGLISH ABSTRACT: Red-grain rice varieties are popularly grown in Fengxin County. They have good adaptability and are tolerant of cold weather. Some varieties, such as Liu-tiao-hong, have very good palatable qualities. But these varieties usually have been tall and lodged easily, hence lower in yield. Since 1973 we have begun to improve these upland rice varieties by means of irradiation. So far 14 mutant lines have been obtained, among which 4 mutant lines seem to be very promising.

9717
CSO: 4011/182

AUTHOR: None

ORG: None

TITLE: "New Breeds of Winter Wheat"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 6, 17 Jun 82 pp 2-4

ABSTRACT: The following new breeds of winter wheat are listed in the paper: (1) Hengshui-781, a single cross sexual hybrid, bred out by Hengshui Prefecture Research Institute of Agriculture, Hebei Province; (2) Zhengzhou-761, a triple cross bred out by Henan Provincial Academy of Agriculture and Forestry; (3) Jixian-728, a single cross bred out by Jiyuan Institute of Agricultural Sciences, Henan Province; (4) Pingyang-76176, a single cross bred out by Research Institure of Wheat, Shanxi Provincial Academy of Agricultural Sciences; (5) 605-11, a multiple cross bred out by Shanxi University of Agriculture; (6) Zhemo No 2, a multiple cross bred out by Zhejiang Provincial Academy of Agricultural Sciences; (6) Omo No 8, a single cross with Italian No 17 as the father, bred out by Research Institute of Grain Crops, Hubei Provincial Academy of Agricultural Sciences; (7) Guimo No 1, bred out by Guangxi Research Institute of Cron through hybridization selection with breeds introduced from Heilongjiang and Fujian; (8) Longqi-35, bred out by Longqi Prefecture Institute of Agriculture, Fujian Province. Properties of the above are briefly described.

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TITLE: "Inquiries Into the Technical Measures of Soybean Production in Heilongjiang Province"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese Nc 6, 17 Jun 82 pp 6-7

ABSTRACT: While soybean is not as adaptable as other crops, it also changes easily into a variety of forms under all different conditions. Although in China, aside from some high and cold areas of Qinghai-Xizang Plateau, soybean is cultivated everywhere, judging from the natural, economic, and social conditions, Heilongjiang is the most favorable for large acreage commerical production of soybean. The unit yield has been only 130-160 jin/mu for many years, however. The problems are as follows: (1) Regionally soybean does not react to nitrogen fertilizer as favorably as corn, wheat, rice, etc. The application of fast acting phosphorus fertilizer is the solution. (2) Incomplete germination of seeds due to extensive cultivation and poor soil moisture: The problem may be overcome by seeding later, using early maturing breeds, and using herbicides for more effective weed control. (3) The problem of drought and flood due to uneven distribution of rainfall may be helped by using small-seed varieties and irrigation. (4) The northernmost area of Heilongjiang is not

[continuation of NONGYE KEJI TONGXUN No 6, 1982 pp 6-7]

suitable for soybean, neither is the western saline and alkaline lands, but this problem may also be overcome if suitable breeds are selected. (6) The acreage of soybean is expanding and the condition of water and fertilizer is improving in Heilongjiang recently but soybean diseases are also becoming more serious. Sunflower encourages the spread of sclerotinia rot; therefore, whereever soybean is the major crop, sunflower acreage should be small and scattered. This is especially essential in low and damp regions.

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TITLE: "Prospect of Wheat Development in South China"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 6, 17 Jun 82 pp 8-9

ABSTRACT: The 3 provinces and 1 region of South China have 9 percent of the wheat acreage of China and 7.6 percent of the total wheat production. The unit yield of Guangxi is 64 jin/mu, Guangdong 49 jin, and Fujian 97 jin, mostly lower than the national average of 86 jin. Failure to improve the unit yield also causes the wheat acreage to fluctuate from year to year. Although this subtropical region has superior condition of water and heat, the crop repeating index is high and many crops are suitable for the winter. If the ratio of wheat acreage is to be enlarged to raise the living standard of the people, ways must be found to increase the unit yield. The major problems include diseases, proper fertilizer application, and breeding locally suitable high yield variaties. The paper maintains that it is not true that there is no future for wheat development in South China. The key is research to improve the level of scientific cultivation of wheat. There is a great potential in improving the unit yield of wheat in South China.

6248
CSO: 4011/156

Genetics

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TITLE: "Genetic Effects of Radiation on Rice Hybrids"

SOURCE: Fuzhou FUJIAN NONGSUEYUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCES] in Chinese No 1, 1982 pp 25-28

TEXT OF ENGLISH ABSTRACT: The F_1 generations (M_1F_1) of different hybrid combinations in rice were radiated by Co rays of 30 kr. The radiation caused genetic effects on the different quantitative characteristics in the M_2F_2 generations.

Induced effects of the different quantitative characteristics were shown in the following two aspects:
1. Though the magnitude of mean population values of irradiated populations were not significantly different from that of unirradiated populations for most of the quantitative characteristics, the population coefficients of variation were increased and the heritabilities were also strengthened.
2. Some of the mean values of irradiation populations were significantly different from those of the control populations for quantitative characteristics and appeared to have positive effects (favorable mutation effects) or negative effects (unfavorable mutation effects).

[Continuation of FUJIAN NONGSUEYUAN XUEBAO No 1, 1982 pp 25-28]

The magnitude of induced effects of production characteristics was estimated with coefficients of variation and hereditability in the M_2F_2 generation and it is taken by the following order: number of effective ears → number of grains → percentage of seeds set → 100 grain weight.

9717
CSO: 4011/178

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TITLE: "Identification of Strains of Soybean Mosaic Virus"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 1, 1982 pp 15-20

TEXT OF ENGLISH ABSTRACT: The symptomatology, physical properties, host range, transmission and varietal reaction of six isolates of soybean virus collected from Jiangsu and Heilongjiang were studied. All of them could produce local lesions on the index plant, Phaseolus vulgaris L. "top crop," and could be transmitted by the peach aphid (Myzus persicae Sulzer), radish aphid (Lipaphis eryzimi Kattenback), and alfalfa aphid (Aphis craccivoro Koch). In soybean sap, their properties were thermal inactivation between 50~55°C or 55~60°C dilution end point between 10^{-2}~10^{-3}, longevity at room temperature (>25°C) between 24~36 hr. Electron microscopy of leaf dip preparations from soybean leaves stained negatively with PTA revealed flexuous particles. They had a narrow host range and only infected a few species of Leguminoceae. However, varietal reactions on soybean cultivars were significantly

[Continuation of ZHIWU BAOHU XUEBAO No 1, 1982 pp 15-20]

and consistently different. On this basis, they could be identified as six different strains of soybean mosaic virus (SMV). When the same strain was inoculated on different cultivars of soybean in a greenhouse, the symptom expressions differed obviously. Hence, the designation of isolates based on symptom expressions seems unreliable.

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TITLE: "Study of the Control of Leaf Rust of Wheat by RH-124 (4-n-Butyl-1, 2, 4-Triazole)"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 1, 1982 pp 21-26

TEXT OF ENGLISH ABSTRACT: The results of greenhouse and field experiments showed that RH-124 gave excellent control against wheat leaf rust.

The winter wheat seeds treated with RH-124 at the rate of 0.03-0.035 percent by weight could avoid the harm of leaf rust before winter. In spring, when most wheat plants raised their flag leaves and started to display the leaf rust, only one spraying with 750 g per ha. of this fungicide gave more than 90 percent control. Soil application with RH-124 by irrigation also produced satisfactory results.

9717
CSO: 4011/172

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TITLE: "Studies on the Resistance of Rice Varieties to Viruses"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 15-18

TEXT OF ENGLISH ABSTRACT: The present report deals with the determination of the resistance of rice varieties to RTYV (RYSV), RDV, RBSV and RRSV.

1. Among the 219 varieties tested during 1973-1975, none of the tested varieties was immune to RTYV and RDV.

More than 15 varieties were considered to be highly resistant to RTYV, including Chikuaiai 3, 691, Tadukan, Longge 1 and Longge 113, etc. Thirty-seven varieties were moderately resistant, such as Zhenlong 13 and Wanxian 1, etc. Seventy-nine varieties were moderately susceptible, such as Shaaida and Lucai, etc., while 88 varieties were highly susceptible, including Zhenzuai 11 and Short White Seeder, etc.

Thirty-four varieties were highly resistant of RDV, including Tetep, Chikuaiai 3, Guba 154 and Mudgo, etc.; and 39 varieties were moderately resistant, such as

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 15-18]

Malaihong, Nongshi 4 and Zhenlong 13, etc. Fifty-one varieties were moderately susceptible, such as Zhenshan 97 and Chaiyeching 8, etc.; and 95 varieties were highly susceptible, including IR 24 and IR 24 x TN-1, etc.

2. Among the 16 varieties tested during 1978 and 1981, none of them was immune to RBSV. The highly resistant varieties were Chikuaiai 3 and Baotaiai; moderately resistant varieties were Cuba 154, Zhenlong 13, Zhenlong 410 and Nongshi 4; and moderately susceptible varieties were Longge 16, IR 24, V 41 and V 20, while the others were all highly susceptible.

3. Among the 32 varieties tested during 1980-1981, none of them was immune to RRSV. The highly resistant varieties were Chikuaiai 3, Shannung 3, Shannung 8 and Chikuaiai-Xiuan; the moderately resistant varieties were IR 30-Xiuan, Baotaiai, Fengaizao A x DT Ai; while moderately susceptible varieties were IR 2061-427-1-17-7-5, IR 29, IR 30 and IR 36, etc. The highly susceptible varieties were Puichao 2, IR 24, Siyou 4 and Shanyou 6.

AUTHOR: WU Zhiqiang [0702 1807 1730]

ORG: Fujian Academy of Agricultural Science

TITLE: "Studies on the Root Development of Hybrid Rice"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 19-27

TEXT OF ENGLISH ABSTRACT: Hybrid rice plants (Oryza sativa L.), hybrids "San-you 2" and "Se-you 2" were used as testing materials, and cultivars "Hong-410," "Da-jia-huo" and "San-bang-70-luo" were used as controls in this study. They were grown both in pots and field plots in 1978-1980. Treatments were carried out during the periods of the 2, 4, 6, 8, 10, 12, 14 and 16 leaf stages, milk stage, dough stage and maturation stage. At each stage the formation of superficial roots, bleeding sap of stem, volume and dry weight of the roots and potency of rooting, etc., were measured. The results obtained are briefly described as follows:

1. The diameter, volume and dry weight of the roots (the density of superficial roots) of the hybrids "San-you 2" and "Se-you 2" were larger than those of the rice cultivars "Hong 410" and "Da-jia-huo," but the diameter and dry weight of the roots were less than those of the cultivar "San-bang-70-luo" with respect to the formation of lateral roots. Visual observations showed that "San-you 2," "Se-you 2" and "San-bang-70-luo" branched up to the fifth order, while "Hong-410" and "Sai-zai-ho" branched up only to the tertiary.

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 19-27]

2. Both hybrids "San-you 2" and "Se-you 2" showed the maximum weight of roots, the maximum power of sap bleeding and the maximum potency of rooting during the dough stage, and 14 leaf-stage respectively. However, the maximum development of rooting per day was reached at about the time of the highest tillering activity. After that the climax of sap bleeding per day was reached, and at the same time an increase of tillers continued up to the greatest tiller development. Then some of the tillers died, making the total number of tillers smaller. The dry weight of roots increased up to the boot stage. However, sap bleeding per day occurred in the dough stage as the secondary summit.

3. When roots were cut at the 4, 6 and 8 leaf stages, the number of tillers was reduced with the decrease in the number of panicles. Kernels per panicle and filled grains decreased when the root was cut at the 12 leaf stage. Furthermore, the rate of filled grains was much less than that of the control when the roots were at the 16 leaf stage.

4. Roots of multiple tiller seedlings were better developed than those of multiple seedlings per hill.

Irrigated field plots with a water layer at the early growth stage and maintenance of wetness thereafter induced active growth of rice roots.

AUTHOR: ZHUANG Weimin [5445 5898 3046]

ORG: Fujian Academy of Agricultural Science

TITLE: "The Application of Remote Sensing Technology to Soil Surveys. II: MSS Image Interpretation of Soils Division in Jinjiang Region of Fujian Province"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 39-51

TEXT OF ENGLISH ABSTRACT: Jiajiang Region is situated on the southeastern coast of Fujian Province at the longitude between 117°30'-119°00' E, latitude 24°30'-25°55' N. It covers a space of over 10,000 sq km.

Jinjiang's climate is considered subtropical marine with seasonal wind. The mean annual temperature is about 20°C, and the mean annual precipitation is about 1,200 mm. From May to November, known as the typhoon season, the rain is accompanied by violent whirlwinds, and this accounts for 30 percent of the total rainfall. From October to January is the dry season. The landform elevation is higher in the northwest and lower in the southeast. The hills and plains are distributed in the southeast. They belong to the Quanzhou plain and the Jinjiang-Huian hill region, and are the base of food and economic crop production.

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

In accordance with the MSS image interpretation of soils, air photograph and actual ground investigation of the soils, the soil associations distributed in the types of various landforms are as follows:

Type of landform	Soil associations		
	dominant (50%)	associated (20-50%)	inclusions (20%)
A. Quanzhou seashore plain			
1. deltaic plain	W_1-3a	S-3a	
2. old deltaic plain	L_t-3b	W_1-3a	W_g-3a
3. rock depositional plain	S_{ba}-3a	S_{ti}-3a	
4. tide island lowland	A_{se}-1a		
5. sea terrace (shallow dissected-platform)	L_t-3b	L_{fe}-3b	W_p-3a
B. Hill (300-500 m)			
1. lost hill of old island	L_{fe}-1b	R_o-1b	
2. rocky hill	R_o-1b	L_t-1b	

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

C. Low mountain (500-1000 M)			
1. mid-dissected	R_t-3c	R_y-3c	W_g-3a
2. shallow dissected	R_t-3b	W_g-3a	W_1-3a
3. valley basin	W_1-1a	R_t-2b	
D. Midmountain (>1000 M)			
1. strong dissected	Y_m-1c		P_m-1a
2. mid-dissected	Y_m-2c	W_g-2a	
3. shallow dissected	Y_m-2b		W_p-1b

Illustrations of symbols

(1) Example of symbol:

Y_m	2	b
Soil subgroup	Texture	Surface feature

(2) Texture:
1--Coarse grain (includes sand and loamy sand)
2--Mid-grain (includes loam and clay loam)
3--Fine grain (includes clay)

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

(3) Surface feature:
a--Plain and lowland: Slope angle <5°, skewed rate <8 percent
b--Wave formland: Slope angle 5-20, skewed rate 9-30 percent
c--Mountain: Slope angle >20°, skewed rate >30 percent.

(4) Soils: L_{al}--Allic lateritic red earth; L_{fe}--Ferr lateritic red earth; L_t--Lateritic red earth; R_t--Red soil; R_y--Yellow red soil; Y_m--Mountain yellow earth; P_m--Mountain peat soil; P_p--peat soil; W_p--Pereogenic paddy soil; W_1--Periodically water logged paddy soil; W_g--Glayed paddy soil; A_{al}--Alluvial; A_{so}--Shore deposit; S_{sa}--Saline soil; S_{re}--residual; S_{ti}--Tidal flat; R_o--Rocky soil.

9717
CSO: 4011/187

AUTHOR: LIN Jisheng [2651 3444 3932]

ORG: Institute of Rice and Wheat, Fujian Provincial Academy of Agricultural Sciences

TITLE: "On the Classification of Rice Growing Region of Fujian Province"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 10 Jun 82 pp 13-16, 23

ABSTRACT: Fujian Province is obviously divided latitudinally, longitudinally, and vertically. The rice cropping systems and the rice breeds vary a great deal from area to area within the province. This paper explains that a rice cropping area is composed of natural as well as social factors, with heat energy the leading factor. On the basis of mainly the data of the Fujian Provincial Bureau of Meteorology, the paper divided the rice growing region of the province into the following areas: (1) The dual crop late ripening Xian rice area of the southern plain and hills; (2) The medium and early ripening continuous cropping Xian rice area of the central plain and hills; (3) The dual crop medium ripening Xian rice area of the northwestern and northeastern hills; (4) The single and dual crop early and medium ripening Xian and Geng rice area of the northwestern low mountains; (5) The single crop rice area of the high mountains. Breeds of the proper ripening time, the suitable seeding and transplanting time, and the cropping system should be decided upon only after a locality is correctly assigned to one of the above rice growing areas if the yield is to be high and stable.

6248
CSO: 4011/157

AUTHOR: ZHOU Zhaoji [0719 5128 1015]

ORG: Northwest Teachers College

TITLE: "China's Traditional Methods of Seed Treatment"

SOURCE: Beijing ZHIWU ZAZHI [JOURNAL OF BOTANY] in Chinese No 3, May 82 pp 35-37

ABSTRACT: Seed treatment to promote germination and growth, to reduce damage from diseases and pests, to induce early maturity, or to cause favorable mutation is a modern, scientific, and common technique but many seed treatment measures being applied in present day China, including sunning, soaking in cold water or warm liquid mixture, variable temperature treatment, mixing seeds with chemicals, soaking with trace elements or growth stimulating agents, vernalization, and ultrasonic wave and radiation treatment are in fact developed on a foundation of China's traditional techniques. Methods of mixing seeds with animal manure and/or herbal drugs, sunning and/or soaking seeds, stratification treatment in sand or a pit, mechanical rubbing, and mixing seeds with herbal pesticides described in old Chinese literatures from as early as the Zhou Dynasty to as recent as the Ming Dynasty are briefly introduced in the paper.

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END

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China Report

AGRICULTURE

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CHINA REPORT

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EXHORTATION FOR RURAL ECONOMIC DIVERSIFICATION ISSUED

Shijiazhuang HEBEI RIBAO in Chinese 15 Jun 82 p 1

[Article: "New Prospects Must Be Opened For Rural Economic Diversification"]

[Text] Not long ago when Comrade Hu Yaobang made an inspection of Baoding Prefecture in Hebei Province, he noted that "Two changes have to be made in agriculture, the first of which is a change from sole attention to grain to simultaneous attention to economic diversification, and the second of which is a change from sole building of water conservancy to simultaneous attention to water and soil conservation and improving soil cover." This important instruction from Comrade Hu Yaobang is a scientific distillation of agricultural development since founding of the People's Republic. It possesses major significance for accelerated agricultural development and the flourishing of the rural economy so that the peasants can become prosperous with all possible speed. We must conscientiously put into practice Comrade Hu Yaobang's major instruction, opening new prospects for the province's economic diversification.

Since the Third Plenary Session of the 11th Party Central Committee, as a result of thoroughgoing criticism of "leftism," readjustment of agricultural crop patterns, and implementation of the party's various rural economic policies, the province's economic diversification has seen very great growth in the farming industry, in the aquatic breeding industry, in processing industries, and in industrial sideline occupations. The broad masses of peasants have increased earnings, the rural economy has become lively, city and countryside markets flourish, and the rural situation is very encouraging. However, it must be realized that the province's development of economic diversification is merely in an incipient stage, and is a long way from meeting the demands of higher authority or developing to the extent to which it can develop. First of all, the guiding mentality at all levels in the province has yet to change completely from sole attention to grain to simultaneous attention to economic diversification, and economic diversification has not yet been elevated to the important position it should occupy. Second, following institution of systems of responsibility for production, a large portion of surplus rural labor has not yet been properly provided for. Third, in mountain regions, the plains, and on water surfaces alike, the potential for economic diversification is still a long way from being tapped. So one might say that economic diversification has not been far off the mark; it has been a long distance from the mark. The major task for all levels of leaders at the present time is to rapidly effect a genuine change in the guiding mentality from sole attention to grain to simultaneous attention to economic diversification, with good planning and strengthening of leadership so that economic diversification in the province will have greater development from its existing base.

If there is to be a change from sole attention to grain to simultaneous attention to economic diversification to open new prospects for economic diversification, horizons will have to be broadened and avenues opened, the collective and individuals rising together, and staples and non staples being given attention together. The province's resources are fairly bountiful. We should not only look at the 10 to 20 percent of mountainlands. On the plains, we should not only look at the limited amount of cultivated land, but look even more at the large quantity of idle wastelands and water surfaces. We should not only look at the output value and earnings from single production, but should look even more at the increased output value and greater earnings from multiple processing. In a word, our horizons have to be expanded to the vast world. In terms of the province as a whole, full use should be made of skilled craftsmen to teach apprentices to serve a role in the transfer of skills. A campaign should be organized for skilled people to teach large numbers of people and for large numbers of people to learn from skilled persons to transfer the large quantities of surplus workforces into economic diversification to engage in the trades and industries of farming, raising of aquatic products, processing industries, and service trades so that each person is used to the full extent of his abilities. Second is full development for use of the province's more than 62 million mu of barren mountains and wasteland slopes, its more than 2.9 million mu of desert wastes and saline-alkaline land, its more than 1.2 million mu of fresh water surfaces and 860,000 mu of coastal shallows, and all resources that have not yet found use or have not yet found full use so that the land will be used to the full extent of its strength. Third is efforts to develop brand name goods, commodities in seriously short supply, agricultural and sideline product processing, and service trades for large and medium size cities and small cities and towns. Where conditions permit, efforts should be made for multiple increases in output value. Things that can be used should be used to their fullest extent. Fourth is that while continuing to give attention to centralized collective administration, sideline occupations that lend themselves to being done by commune member households should be handled by individual commune member households for vigorous development of household sideline occupations. Production brigades and production teams should adapt general methods to individual households to help in the formulation of plans, deciding on things to be done, teaching skills, finding markets, and in formulating specific regulations helpful to development of household sideline occupations. This is one important aspect of the widening of avenues of economic diversification. Fifth is attention to good selection of breakthrough points. Broadly speaking, we want all around development of economic diversification. However, in terms of an individual county, an individual commune, or an individual production brigade, attention should be directed to one or several local things that can be readily handled, use made of focal points to spur on the whole.

Yet another important issue in active development of economic diversification is the need to correctly handle the relationship between grain production and economic diversification, with no relaxation of grain production under any circumstances. The experiences of history have told us that only when increases in grain production are assured is it possible to lay a firm foundation for development of economic diversification, and that growth of economic diversification can, in turn, provide more advantageous conditions for increased production of grain. We definitely must fully understand this dialectic relationship; we must not use a decrease in grain to increase economic diversification, but rather should blaze a new trail that both assures year by year increases in grain output and that can also greatly increase economic diversification to achieve a takeoff in both grain and economic diversification.

The establishment and perfection of various forms of responsibility systems is a key in arousing the enthusiasm for economic diversification of commune members. The practice during the past several years of various forms of agricultural responsibility systems has universally aroused the serious attention of the entire party and has achieved very good results. However, systems of responsibility in commune and brigade industrial sideline occupations have lagged behind agriculture. Henceforth, while perfecting and improving agricultural responsibility systems, all jurisdictions should devote major efforts to economic diversification responsibility systems, contracting to specialized teams, specialized units, and specialized households economic diversification tasks. It should be noted here that in commune and brigade enterprise contracting, it is necessary to adhere to the collective nature with most benefits reverting to the collective. There can be no nominal contracting that is converted in reality to small number of people having ownership. Wherever a small number of people have taken possession in the past, collective operations must be resolutely revived and thereafter a suitable economic responsibility system should be built and perfected by proceeding from a strong and solid collective economy. In the development of sideline occupations, there should be vigorous development of specialized households and of all kinds of collective groups; not only should operations by combinations of households be advocated, but even broad combinations that transcend commune and brigade lines should be allowed to develop.

The areas on which economic diversification bear are very broad, and under the centralized direction of the party, all units in all jurisdictions should work together to give vigorous support and assistance to communes, brigades, and the broad masses of commune members in every way. All levels of CCP committees and governments and related units should gunuinely strengthen concrete leadership, help communes and brigades institute the "two changes," and further formulate plans for development of economic diversification. They should conscientiously put into effect the principles of taking the planned economy as the key link in agriculture with market regulation playing a supplementary role." They should indoctrinate the broad masses of cadres and commune members in concurrent concern for the interests of the country, the collective and individuals, to link present interests and long range interests, to do centralized planning, to have all around development, to enliven the economy, and to increase effectiveness. They should teach cadres and commune members to adhere to a socialist orientation and to take the road of getting rich through labor, to not contravene national policies and laws, and to strike down evil influences on the country and the people so as to have healthy development of economic diversification.

In the process of developing economic diversification, scientific and technical knowledge should be spread for the gradual formation of a huge mass science and technology corps. It is necessary, first of all, to adopt advanced techniques for use, to promote fine varieties, and to prevent and control diseases and insect pests, to create name brands through economic diversification, to insure quality, increase confidence, and meet the needs of society. State owned and collective commercial units should do a good job of market forecasting, and provide commodity information, to help the peasants arrange production in a rational way and prevent large ups and downs. In addition it is necessary to open flow channels, to open markets at home and abroad for the products of economic diversification, and strive to decide production on the basis of the market so that goods flow freely.

We believe that if only the people of the province rally their spirits, emancipate their mentalities, play up strengths and play down weaknesses, make the most of advantages, each trade and industry striving together, rural economic diversification in the province is bound to be able to rapidly open new prospects.

9432
CSO: 4007/466

NOTICE ON PREVENTION OF COTTON DISEASES PUBLISHED

Shijiazhuang HEBEI RIBAO in Chinese 13 Jun 82 p 1

[Article: Hebei Provincial People's Government Notice On Conscientious Launching of Survey Work on Verticillium and Fusarium Wilt of Cotton"]

[Text] (Not Otherwise Circulated)

Government Administrative Offices in All Prefectures:

In order to prevent the spread of damage caused by cotton verticillium and fusarium wilt disease, all prefectures are to conscientiously inspect the occurrence of disease damage during the period of cotton growth.

1. Leadership comrades concerned in all prefectures and countries are to act personally to organize personnel in agricultural, supply and marketing, and cotton buying units to give active attention to this work. They are to do a good job of propaganda education and technical training to arouse the masses to engage in the survey.

2. The survey is to be carried out at two different times, the first time being the cotton's early budding stage (in June) and the second time being the boll stage (in August). The area of disease occurence and the extent of disease occurence are to be carefully checked, and areas of heavy incidence, light incidence, patchy incidence, and on incidence delineated. Survey results are to be promptly reported to the Provincial Department of Agriculture.

3. The survey is to serve as the basis for planning all around prevention and control. Areas of heavy incidence are to be clearly recorded so that next year reverse cropping or planting of resistant varieties can be done. In areas of light incidence or patchy incidence, diseased plants should be dug up at once and the soil disinfected. In disease-free areas, good protection work should be done, disease-free fine varieties bred, a strict quarantine system instituted, and the spread of diseased seeds and bacteria-carrying beancake fertilizer to disease-free areas controlled.

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CSO: 4007/466

HEILONGJIANG

BRIEFS

SUBTERRANEAN RIVER DISCOVERED--Heilongjiang Province has discovered for the first time a subterranean river. This was recently identified factually after several years of survey and prospecting by provincial metallurgical and geological workers. The subterranean river, located in the Xiling District of the city of Yichun, measures 3 kilometers in total length. The source of the river is located about 50 meters underground, with its river outlet meeting the southern river bank of the small Xilin river valley. This subterranean river is rich in griotte, and has a complicated geologic structure. The area close to the river has dense forest, flourishing terrene water systems, and sufficient rainfall. During the dry season, the rainfall has a daily flow capacity of 9,000 cubic meters, and reaches more than 40,000 cubic meters daily during the wet season. The departments concerned have determined that this subterranean river has water of superior quality and reliable flow capacity, making it an ideal water source for industrial and civil use. Furthermore, the river is near Xilin Steel Mill. This has a rather important economic significance to the tight water supply situation that the steel mill faces. [Text] [Harbin HEILONGJIANG RIBAO 13 Jul 82 p 1]

CSO: 4007/530

DEVELOPMENT OF HOG-RAISING INDUSTRY NOTED

Beijing RENMIN RIBAO in Chinese 4 Jul 82 p 2

[Text] The hog-raising industry continues to develop in Siping Prefecture, Jilin Province. As of the end of the first quarter of this year, the prefecture's live hog population totaled somewhat more than 1.36 million head, a 4.38 percent increase over the same period last year. Three hundred thousand head were removed from inventory, a 9.24 percent increase over the same period last year. This included 54,800 head sold to the state, a 6.53 percent increase over the same period last year.

Siping Prefecture is an advanced area for hog-raising in Jilin Province. This year live hog production has continued to develop throughout the prefecture, mostly through reliance on policies to arouse the enthusiasm of the peasants for raising hogs, and reliance on science to improve hog-raising techniques. This year the prefecture universally established and perfected various kinds of hog-raising production responsibility systems. Some counties also enacted bonus systems for raising hogs. Lishu County, for example, stipulated that the countywould give a bonus of 200 yuan to any commune that raised one hog per person. If the commune sold one commodity hog per household, the county would give the commune a 300 yuan bonus. In this way, it aroused the enthusiasm of both the collective and of individuals for raising hogs.

In order to give real help to hog-raising households in solving problems of obtaining livestock feed; acting in accordance with regulations, the entire prefecture apportioned an overwhelming majority of the animal fodder raising land to hog-raising households. Some production teams also farmed a certain amount of collectively own feed producing land or took over some reserve livestock grain for use in preparing feed for developing live hog production during the current year. By way of encouraging commune members to raise more hogs, Siping City stipulated that for every boar or sow raised by vegetable growing peasants in the suburbs, in addition to the 250 jin of concentrated feed provided by production teams, an additional 200 jin of mixed feeds would be provided. For every live hog raised by peasants growing nothing but vegetables and to whom no land had been apportioned for the growing of livestock feed, 500 jin of mixed feed would be provided.

A full supply of hog sources is one of the major requirements for development of the hog-raising industry. Siping Prefecture conscientiously took in hand the job of state farm and collective raising of boars and sows. The prefecture has 6 state hog-raising farms, which so far this year have bred 1,400 stud hogs, which have been sold to communes, brigades, specialized households, and key households for raising. Quite a few communes and brigades have given attention to the consolidation and development of collective hog-raising. As a result of having done a good job in collective hog-raising, in having solved its problems with sources of hogs, in having stabilized shoat prices, and in having raised one hog per person for many years in a row, Shuangyushu Commune in Huaide County made another breakthrough this year. Statistics as of the end of April show the number of live hogs in the commune being fed as 15,500 head, or 0.7 head per person, placing it in first place in the prefecture.

This prefecture has also vigorously promoted scientific techniques for raising pigs, and has bolstered epidemic prevention and disease eradication work. The Prefecture Main Veterinary Station ran a pilot project at Taiping Commune in Lishu County on cooperative prevention and treatment of livestock diseases and the insuring of hogs. The specific method used was for the veterinary station to contract with hog-raising households for epidemic prevention, medical treatment, and cost of hogs (guaranteeing 25 yuan for each hog that died). The hog-raising household paid an annual insurance premium of 2 yuan per hog. Results of the project shows that this method is simple, convenient and workable; veterinarians were satisfied and the masses were delighted. During this year, the method has been promoted and put into effect everywhere throughout the prefecture.

In order to solve problems of "difficulty in selling hogs," in early February this year, commercial units at all levels signed assigned hog-raising and assigned purchase agreements with hog-raising households. The plan's assigned quota for the prefecture was 2.14 million head and the assigned procurement quota was 460,000 head. Agreements were signed on this basis. If hog-raising households did not sell their hogs at the time stipulated in the agreement, for each days delay in selling, they had to pay a 0.10 yuan damages fee to the commercial unit. For each day the commercial unit was late in accepting delivery, it had to give the hog-raising household a fee subsidy fee of 0.30 yuan per head per day. Everybody called this agreement "double insurance," and it made hog-raising households feel as though they had swallowed "tranquilizers."

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CSO: 4007/468

MEASURES TO FIGHT BACTERIAL BLIGHT OF RICE DISCUSSED

Xian SHAANXI RIBAO in Chinese 11 Apr 82 p 2

[Article: "Remarkable Success in Prevention and Control of Bacterial Blight of Rice in Hanzhong Prefecture. Production Area Quarantine and Prevention and Control of the Spread of Diseases and Insect Pest Begun"]

[Text] Plant protection and plant quarantine station science and technology personnel in Hanzhong Prefecture have won striking successes in the prevention and control of paddy rice bacterial blight over large areas.

Beginning in 1980, this plant protection and plant quarantine station set up 655 disease-free bases on more than 350 mu area. Thanks to the painstaking care of technical farm cadres and the masses, 1.68 million jin of blight-free first generation hybrid rice seeds were harvested in the fall of the same year, and more than 17,900 jin of "three lines" rice seeds plus 700,000 jin of conventional rice seeds free of blight were also harvested. These disease-free seeds were planted for open field production in 1981. The diseased field area dropped strikingly, and the extent of damage decreased greatly. Survey statistics show that as a result of the spread throughout the prefecture's producing areas of the single measure of quarantine to prevent the spread of disease damage, 6.05 million jin of paddy was saved in the same year. After summarizing experiences, in 1981 they formulated "Trial Regulations for Hanzhong Prefecture Paddy Rice Seed Producing Area Quarantine," while enlarging to 17,575 mu the disease-free paddy rice base area so as to lay a foundation for further eradication this year of bacterial blight.

The specific methods they used were as follows: (1) Effective inspection to understand the disease situation. During the fall of 1979 8,300 quarantine inspectors were training throughout the prefecture, and 434 communes carried out field inspections so as to clearly delineate the dividing line between disease and disease-free zones as data for formulating prevention and control measures. (2) Adoption of multiple measures for the breeding of disease-free seeds. In establishing disease-free fine variety breeding bases, they followed quarantine requirements, using "dikushuang" to soak the chosen rice seeds prior to planting them. In propagating seedlings and caring for them in open fields, strict attention was given to proper watering, fertilization, and use of pesticides to prevent outbreaks of bacterial blight. (3) Implementation of quarantine in producing areas and promotion of disease-free seeds for sale. Before the rice was harvested, quarantine personnel from plant protection units and science and technology personnel from fine variety breeding units conducted joint quarantines of producing areas. In production teams where no bacterial blight had occurred, quarantine requirement certificates were signed and issued in the fields and procurement contracts signed on the basis of the area involved. Following harvest of the rice, seed units became responsible for procurement, storage, and looking after the seeds. Before growing seedlings in the following year, disease-free seeds were taken, according to disease prevention plans, to disease-free areas or to communes and brigades lacking seeds in diseased areas where they were planted to put an end to the source of disease bacteria.

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SCIENTIFIC FARMING PRACTICES DEMONSTRATED OVER WIDE AREAS

Xian SHAANXI RIBAO in Chinese 9 Apr 82 p 1

[Article by Xinhua She Correspondent Zhao Zhixiang [6392 1807 4382] and Xinhua She Reporter Dai Guoqiang [2071 0948 1730]: "Cadres Effectively Farm Model Fields to Promote New Agricultural Techniques. Yan'an and Yulin Prefectures Use Representative Demonstrations to Guide Scientific Farming"]

[Text] Beginning with this year's spring farming preparations, prefecture county, and commune party and government cadres, and scientific and technical personnel in Yan'an and Yulin prefectures in Shaanxi Province will farm model fields in concert with the peasant masses, using the method of representative demonstrations to promote new agricultural techniques and provide instruction in scientific farming. Right now the model fields in these two prefectures cover 200,000 mu.

Just before and after the lunar new year, Yan'an and Yulin prefectures convened conferences of cadres and commune member representatives to summarize experiences and analyze developments. It was generally acknowledged that in a situation in which agricultural production responsibility systems had already been universally established, it was necessary to give attention to the important link of scientific farming. To this end the leadership organizations of the two prefectures decided that beginning with this year's spring farming, cadres would farm model fields, adapting general methods to local situations to spread some effective advanced farming practices. These advanced farming practices were principally as follows: Farming using furrows in river plains areas; horizontal furrow farming on hillsides; and rotational cropping and intercropping of oil-bearing crops, beans, and grass on terraced fields and plains fields.

Before spring sowing began this year, Zhidan County transferred a group of leadership cadres and farm, forestry, and livestock raising technicians to form two work teams, which went to Xinghe Commune in Dongchuan and Jinding Commune in Xichuan to establish two model tracts for the planting of nearly 3,000 mu of model fields. They formed a link with and gave guidance to the eight "lead villages" farmed by the communes within the two tracts. These "lead villages" linked up in turn with the surrounding "scientific and technical households" to promote the aforestated advanced farming methods for spring sowing and the new techniques of earliest possible sowing, reasonably close planting, and fertilizing with a mixture of nitrogenous and phosphate fertilizer. In the planting of 135,700 mu of model fields to millet, soybeans, broom corn millet, oil bearing crops, paddy rice, and wheat prefecture, county and commune cadre in Yulin Prefecture set up prefecture-wide guidance fields and lead fields for the popularization of scientific farming.

For all model tracts and model sites as well as for contracting households within the tracts and sites, technical contracts linked to output were universally signed. Contracts were signed for category 1 model tracts and with contracting households within tracts in Yulin, Mizhi, Zhidan, Yan'an, Fu, and Ganquan counties (or municipalities), and contracts were signed by all communes at model sites and by contracting households. The contracts stipulated the new techniques, the new varieties, and the farming techniques that were to be promoted, with rewards being offered for overfulfillment, any reductions in output to be made up by commune and county promoting units. In addition, county and commune model tracts were responsible for teaching technical knowledge and for the training of technical mainstay cadres. Before spring sowing began, Yan'an and Yulin prefectures trained more than 30,000 enrollees as technical mainstay cadres.

Right now an upsurge has been sparked in spring plowing and production in northern Shaanxi. As of mid-March, plowing and harrowing of almost 300,000 mu has been substantially completed in Yan'an and Yulin prefectures, and most of the barnyard manure to be used as base fertilizer for the fields had been sent to the model fields. Statistics show that the superb quality barnyard manure made ready for spring sowing in the two prefectures amounts to more than 100 million dan, a 20 percent increase over last year.

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PRACTICAL SCIENTIFIC FARMING EMPHASIZED

Jinan DAZHONG RIBAO in Chinese 17 Apr 82 p 1

[Article: "Linyi Prefecture Gives Positive Attention to Agricultural Science and Technology Work. Achievements Scored in Agricultural Research, Spread of Techniques, and Scientific and Technical Education"]

[Text] Linyi Prefecture has given positive attention to agricultural science and technology work to score quite a few achievements in recent years in agricultural research, the spread of techniques and scientific and technical education.

Statistics show 136 research achievements for the prefecture as a whole, including 26 of which were of fairly high level, had fairly great economic benefits, and were worth promoting. One example was a method for the prevention and control of peanut green wilt, which was effectively able to control disease damage and increase yields for an increase of about 50 jin per mu, all conditions being equal. Experiments with bumper yields from young Chinese chestnut trees have brought yields of more than 1,000 jin per mu from small areas in Fei County. Following changes for the better, many old trees that had formerly virtually stopped bearing are now universally producing fruit, yields raising from the former 5 or 6 jin to about 60 jin, or a maximum of more than 130 jin. The Cangshan County Agricultural Institute carefully selected fine varieties of garlic, planted it reasonably close, scientifically fertilized it, used plastic sheeting, and employed such new farming techniques for yields last year of 3,764.8 jin per mu of fresh garlic bulbs and 1,320 jin of garlic flowers and stems, more than 80 percent more than from fields in general.

In the field of the spread of techniques, as a result of the selection of techniques that could gradually be spread from key points to wide areas, economic results were also very remarkable. An example was tackling the problem with black sajong soil. As a result of small area experiments conducted by the Wangqiao Commune Agricultural Science Station, yields rose from 278 jin per mu in 1975 to 945 jin per mu. Now results have been spread to more than 100,000 jin throughout the county. Ying County's experiences in building quick growing, high output forests were also spread to Linyi, Tancheng, and Cangshan counties. Last year the entire prefecture established this quick growing, high yield method for more than 110,000 mu of forests, and this year the area is to increase to more than 200 mu. In order to meet the needs of the broad masses of peasants to study science and use science, throughout the prefecture after-hours technical education has been actively launched. Now a vocational school corps of 15,000 teachers has been established, and more than 500,000 people are engaged in study. Training is in the form of year-round classes, seasonal classes, short training classes, and technical lectures. Year-round techncial training classes follows a 3 or 4 year educational system. When the period of training has been completed, if test results meet requirements, a diploma is issued. Those with outstanding achievements are designated "peasant technicians."

Recently Linyi Prefecture held a conference for the exchange of scientific and technical experiences at which 153 advanced collectives and individuals who had made achievements in research and the spread of techniques were given awards and commendations.

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STEPS TO INCREASE HOG PRODUCTION REPORTED

Beijing RENMIN RIBAO in Chinese 4 Jul 82 p 2

[Text] The Sichuan Provincial People's Government recently approved and sent forward the Provincial Animal Husbandry Bureau's report requiring all municipalities, zhous, and counties in the province firmly to take in hand the production of sows to increase the source of hogs.

Recently a sustained decline has occurred in the number of sows in inventory in some key commodity hog producing areas of Sichuan Province, and the problem of a shortage of sources of hogs is a fairly prominent one. In Chengdu Municipality and in Wenjiang, Neijiang, Jinyang, and Nanchong prefectures, the number of sows capable of reproducing decined during the first quarter of thsi year by 12.6 percent as compared with the same period last year. In some prefectures and counties, sows account for only between 4 and 5 percent of the total hog population. The shortage of sources of hogs has already produced bad effects on development of hog-raising, and unless urgent action is taken to solve this problem, it will adversely affect the province's total output of pork.

By way of increasing sources of hogs, this province's animal husbandry units have required that all jurisdictions, first of all, raise the sows they already have, increase the shoat production rate, and aim for an average one more birth and one less death of shoats per sow per year. In this way it will be possible to increase the number of shoats produced by the equivalent of 600,000 head of sows and rapidly increase the number of sows in inventory. The number of sows in inventory throughout the province should not be less than 7 percent of the total hog population. On the basis of requirements all jurisdictions should adapt general methods to local situations to set a proper proportion of sows to be bred. Development of sow production requires bringing into play the initiative of both collectives and commune member households for raising sows, every effort being made to have production teams do the breeding and households do the raising, with further implementation of a bonus policy for the raising of sows. Production teams should annually set aside about 300 jin of feed grain per sow or else designate 1/10 or 2/10 mu of land for the raising of feed, make hog-raising a part of commune member contract agreements, take action to provide land for the growing of fodder to feed sows, with the land being taken back by the collective if no sows are raised in a system whereby hogs and land are linked. When sows bear young, state regulations on award sales of grain for production of shoats should be honored. In addition to taking action to produce sows, attention should also be directed to the promotion of fine hog species so that hybrid hogs in the province will increase from this year's 20 percent to 25 percent of the hog population.

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PROVINCE STRIVES TO INCREASE HOG PRODUCTION

Hangzhou ZHEIJIANG RIBAO 24 Jun 82 p 1

[Text] The hog production situation in Zhejinag Province has been heartening throughout the year. As of the end of May the number of live hogs in inventory totaled 12.69 million head for a faster recovery rate than last year. State procurement of live hog throughout the province during the previous 5 months was 4.4 million head, a 2.4 percent increase over the same period last year. Markets within the province have liberalized pork supplies, and in most municipalities and counties supplies are unlimited. This has been the result of all levels of government having strengthened leadership in hog-raising, of diligent implementation of policies for commune and brigade hog-raising, and active fulfillment of live hog assigned procurement quotas.

The once a year small peak period in hog purchases has arrived under conditions of a gradual resurgence of live hog production. In recent days, foodstuff stations have been busy with buying and busy with selling, and cold storage plants have been very busy with butchering. It has been estimated that during June and July quantities purchased will approach last year's levels, and quite a few hog raising households are concerned lest this year become one of "difficulty in selling hogs."

It should be realized that hog-raising in Zhejiang Province is rather good this year, but it has not yet reached an all-time high. In some cities and villages, pork supplies are somewhat short, and both export and light industry units have increased required amounts. So in terms of the year as a whole and over the long term, there is no hog glut, but rather a need for continued production. As far as the concentrated sales of hogs during the current small peak season are concerned, this results from a conflict between seasons and areas. Commercial units have investigated and studied and are fully prepared to meet this situation. Plans have been readied for each of the links of procurement, transportation, butchering, storage, and marketing. As compared with last year, conditions favoring solution to "difficulty in selling hogs" are numerous. One is that cold storage capacity has been greatly increased. In addition to the existing more than 27,000 tons storage capacity in the province, 4 large and medium-size cold storage lockers have been built. Two of them at Jinhua and Ningbo have formally gone into service, and before the end of June the one at Jiaxing will be ready to store meat. One cold storage locker at Hangzhou will be used following major repairs. The total amount of pork that can be stored will amount to about 400,000 live hogs. Small cold storage lockers in some places can also function as "reservoirs" for the overflow. Second is liberalization of pork supplies in cities and the countryside. In Hangzhou, Ningbo and seven prefectures, there is unrestricted supply. Accompanying an increase in meat consumption by people in cities and the countryside has been more skinning and rendering of fat, and more processing of meat products, which has brought about an increase in quantities marketed. Third has been an increase in export requirements and the amount of pork used by light industry. Of course, in view of differences between one area and another in the speed of development of live hog production, as well as differences in patterns of sales and operating conditions, the problem of "difficulty in selling hogs" positively cannot be taken lightly.

During the small peak period of live hog procurement, what can be done to prevent occurrence of a situation of "difficulty in selling hogs"?

1. Reliance on the Active Efforts of Staff and Workers of Units Dealing in Foodstuffs. As far as staff and workers of units dealing in foodstuffs are concerned, if they do a good job of live hog procurement during the small peak period they will have taken the initiative for the year as a whole. In purchasing live hogs the experiences of Dongyang and Yiwu Counties should be promoted for "viewing hogs from door to door, issuing certificates as meeting specifications, fixing times and fixing places, and appointments to make sales." In light of the concentrated offerings for sale, the number of network outlet points have to be increased, the number of times for purchase in a given period increased, and early and late purchases made so that the pigs to be purchased will be purchased. In order to buy more pigs, it is necessary to sell more pork. This year villages have had a bumper spring grain harvest and quantity of pork consumption has increased. Marketing plans should be actively fulfilled, and in places where live hog purchases overfulfill plan, more pork should be made available in an effort to avoid occurence of a situation of "difficulty in selling pork." Purchasing units should also fully tap storage potential, borrowing some old storage lockers and erecting some simple storage sheds to do the utmost in keeping more pork in order to improve pork supplies in villages during the summer harvest and summer planting.

2. Reliance on Close Coordination With Units Concerned. Large and small freezer plants that are "focal points" should seize this "golden season" to tap potential, accept more hogs, slaughter more hogs, and store more hogs. Other light industrial units that use hogs as raw materials should alsl proceed from the overall situation in receiving hogs according to plan. Transportation units should give careful attention to safe hauling to avoid deaths of live hogs so as not to create unnecessary economic losses.

3. Reliance on the Support of the Broad Masses of Commune and Brigade Cadres and on Households Selling Hogs. As peasant living standards have improved and rural systems of responsibility have been implemented, peasant pork consumption has spurted during the time of summer harvest and summer planting; consequently, a staggering of the time of sales of live pork to

the peasants is required, with some pork being kept until ate July and August so that it can be slaughtered on the spot and supplied at the appointed time. This way also helps accumulate hog dung to meet the needs of the late rice crop for organic fertilizer. Commercial units have already made a great amount of preparation to purchase live hogs, and the "main door for the purchase of hogs is wide open." The broad masses of peasants need not believe rumors, but should sell their hogs in batches in accordance with the feeding practices in each jurisdiction, and should coordinate with and support units dealing in foodstuffs to do a good job in purchasing hogs.

Solution to "difficulty in selling hogs" bears on stabilizing and promoting live hog production, and on preserving peasant enthusiasm for hog-raising. That it is the concern of all quarters and of the peasants is only as it should be. If reliance is placed on all levels of party and government leaders, with the broad masses of staff and workers in commercial units actively making efforts, and both units concerned and rural communes and brigades giving vigorous support, the situation of "difficulty in selling hogs" during the small peak season in hog procurement can be avoided.

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RENEWED EMPHASIS ON ORGANIC FERTILIZER NOTED

Official's Statement

Hangzhou ZHEJIANG RIBAO in Chinese 6 Jun 82 p 1

[Text] "A large volume of investigation materials attest that increased collection and increased use of organic fertilizer are measures of strategic significance for assuring sustained increases in agricultural production, and all levels of leaders should be certain not to treat this as unimportant." This was an observation that Provincial CCP Committee Secretary and Deputy Provincial Governor Chen Zuolin [7115 0155 7207] repeatedly emphasized in a statement he made yesterday to the newspaper's correspondent. He has required rural leaders at all levels throughout the province in the course of organizing forces to diligently grow and care for the early rice crop, use June's advantageous conditions of numerous sources of fertilizer to go all out in stirring the masses to the widespread launching of a summer fertilizer collection campaign to create fine conditions for increased yields from this year's late rice harvest and for a bumper harvest for the year as a whole.

Comrade Chen Zuolin pointed out that basic soil fertility had an extremely great deal to do with how well farm crops grow and, in this sense, to give attention to the soil's basic fertility is the same thing as giving attention to the capital construction of farmlands. Increased collection of fertilizer is no expedient measure, but is rather a basic issue of strategic importance; it is not a trivial matter but an important one. During the 1960's no phosphate fertilizer was applied even to green manure plants in the Hangzhou and Jiaxing lake area, but by the mid-1970's the paddy rice also lacked phosphate. Today some places have also discovered a lack of potash. A small number of places in the area around Ningbo and Shaoxing have recently discovered a lack of zinc. The basic reason for the occurence of such situations is the serious proportional imbalance in fertilization with organic and inorganic fertilizer. The former traditional pattern of using mostly organic fertilizer has undergone great changes. If this continues, there will be no end of trouble in the future. This is the situation in high yield areas, and in low yeild areas the situation is more serious. Today Zhejiang Province has more than 3 million mu of "low yield fields" with normal annual yield as low as 800 jin per mu. The yields from these low yield fields are low because the soil itself is farily seriously abnormal; its structure is very poor, and it is seriously lacking in elements. Unless these fields are improved and their basic fertility increased, they will never get rid of their stigma as low yield fields. Recently I learned at the Jiaxing Prefecture Institute of Agriculture that from 1973 up until last year, in years of fairly severe natural disasters and in years of fine weather alike, their several mu of three crop experimental grainfields produced yields of more than 2,000 jin per mu for 9 consecutive years. Aside from some scientific farming methods used, the main reason for this was the serious importance they attached to equitable fertilization with both organic and inorganic fertilizer, and the serious importance they attached to improving the soil's basic fertility. Were everyone to understand this rationale, they would not regard the collection of fertilizer as "a platitude," but rather would give it attention as a major link in increasing present scientific levels of farming. Happily, today there are some counties that have done just this. We will introduce and promote their experiences in a future issue of the ZHEJIANG RIBAO. The Provincial CCP Committee wishes that all counties would do this.

Comrade Chen Zhling continued by pointing out that it is in the late fall crop that the lack of organic fertilizer shows up particularly seriously, and particularly in the late rice crop. The late rice crop has no green manure as a base fertilizer, and the area on which river mud is used as a base fertilizer has contracted greatly. Units concerned have found that unless decisive measures are taken, possibly 5 to 6 million mu of late ricefields will remain unplowed and unplanted this year. This is one of the major reasons why the output of late rice does not rise or is inconsistent in some counties. In analysing this fall's production situation, simultaneous with full consideration of all advantageous conditions, all levels of party and government leaders must note this point clearly and handle it conscientiously.

Finally Comrade Chen Zuolin placed a specific requirement on all jurisdictions. He said that June is the time for field care of summer crops, and leaders at all levels should take firmly in hand this favorable opportunity to go all out in stirring the masses to enlarge sources of fertilizer, to do mass gathering of mud fertilizer, and to start an upsurge in the increased gathering of mud fertilizer. He required that effective action be taken to increase the planting of sesbania and such summer green manure, and of fine duckweed, to dedicate an area to this, and to encourage the return of rice straw to the fields. In short, cities, towns, and villages should link up in a summer patriotic sanitation movement to run a mass campaign lasting a few score days to gather fertilizer. This would not only solve difficulties with insufficient base fertilizer for the late rice crop, but would make a good beginning in improving the soil's basic fertility. Comrade Chen Zuolin said that in order to make sure that these actions will be rapidly carried out everywhere, we will intensify inspections supervision, and goading, commend the advanced, spur the laggards, and strive for balanced development.

Two Experts' Views

Hangzhou ZHEJIANG RIBAO in Chinese 8 Jun 82 p 1

[Text] Zhejiang Province's noted soil fertility experts and professors at Zhejiang Agricultural University, Sun Xi [1327 5032], and Yu Zhenyu

[0205 7201 6276] expressed their separate views to the correspondent on the issue of rational fertilization.

The two experts believe that one of the problems existing today in the use of fertilizer is the great importance accorded chemical fertilizers and the slight importance accorded organic fertilizer, which has brought about a situation of proportional imbalance between the two kinds of fertilizer. They said that we should have two goals in fertilizing. One is to provide nutrients to the crops to increase yields; the other is to increase the soil's organic content and to nurture its fertility. Though fertilization with large amounts of chemical fertilizers can win high yields for a time; it does nothing for nurturing soil fertility and may even not be good for the nurturing of soil fertility. Calculations based on isotope tracing shows the utilization rate of chemical nitrogenous fertilizer to be a general 50 percent, and less in the case of phosphate. This shows that most of the nutrients that plants absorb are those that existed in the soil originally, and which are supplied by the soil. Therefore, nurture of soil fertility is a major basic matter, and in nurturing soil fertility, only organic fertilizer can do the job.

The two experts explained that the water, fertilizer, air, and heat in the soil all have to be coordinated if it is to be like a man in the prime of life, alive and strong. Coordination of water, fertilizer, air and heat is done by their conversion by organic fertilizer into humus. Organic fertilizer is like glue that binds soil granules together into "masses" of different sizes to borm a "granular structure." Such a structure resolves the contradiction of mutual jostling of water and air, making the soil friable and increasing its capabilities to conserve fertility and provide fertility. Thus, a good structure is the basis for soil fertility, and organic material is the material foundation for this kinds of structure. Organic material is also an "energy material;" it is food for micro-organisms, and micro-organisms play the "leading role" in promoting a series of soil fertility development processes. For example, soils contain numerous nutrients that plants are unable to absorb directly. For example, the soil content of potash may run from 2.1 to 2.3 percent, which is to say that there will be between 600 to 700 jin per mu. But it is a "mineral," requiring weathering and "extraction" by micro-organisms before it can become a soluble nutrient and be absorbed by crops.

Therefore, in order to make the soil fertile, it is necessary that micro-organism families proliferate, and this requires use of organic fertilizer.

Buy why is it that organic fertilizer cannot nurture soil fertility? The two professors answered by saying that fertilization solely with chemical fertilizer provide micro-organisms with a source of nitrogen enabling them to proliferate greatly. However, for each part of nitrogen micro-organisms use to build their body cells an expenditure of 25 parts of organic carbon is required. If there is insufficient organic fertilizer, they can only break down the organic material in the soil to obtain energy. Consequently, longterm fertilization with chemical fertilizer with no increase in organic fertilizer must inevitably create a decline in the soil's organic matter and impair soil fertility. The rate of yield increase per jin of nitrogenous fertilizer also drops. Experiments have shown that for every 37 jin of ammonium sulfate used, between 2,000 and 2,500 jin of farmyard manure should be added in order to check depletion of the soil's organic materials and humus. Therefore, chemical fertilizer has to be used in combination with organic fertilizer if the soil is to maintain its fertility and the benefits of increased yields from chemical fertilizer increased.

Tow two professors pointed out that to get high yields from low yield areas, organic fertilizer to nurture soil fertility would have to be relied upon; to get consistent yields from high yield areas and to get continued increases in yields, it is even more necessary not to neglect organic fertilization. When yields are high, that shows that the crops have taken many nutrients from the soil, and unless they are promptly replaced, and the organic content of the soil falls, it will not be easily revived. In Zhenjiang where rainfall is great and temperatures high, organic fertilizer decomposes rapidly. In addition, the multiple cropping index is high, so the amount of organic fertilizer applied to the soil has to be somewhat greater.

The two experts also noted that Zhejiang Province enjoys advantages in its workforce and in its farming techniques for large scale use of organic fertilizer. By making use of these advantages to invest in the soil very great benefits can be realized. They suggest that in order to encourage the peasants to use more organic fertilizer, specific policies should be formulated, and that promotion of the use of organic fertilizer should be made a part of the technical responsibility system for farm technicians.

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TITLE: "China's Goat Breeds and Their Productive Properties"

SOURCE: Tianjin ZHONGGUO XUMU ZAZHI [CHINESE JOURNAL OF ANIMAL SCIENCE] in Chinese No 1, 5 Feb 82 pp 9-12

ABSTRACT: The distribution of goats is extensive in China. In more than half of the provinces, the number of goats exceeds that of sheep and in some southern provinces, where raising sheep is not feasible but raising goats is possible. There are only about 8 billion goats in China, however, 61.3 percent in farming areas and 23.5 percent in pastoral areas, with the remaining in mixed areas. With sheep, 60.2 percent are in pastoral areas to prove that goats are distributed mainly in farming areas. Geographically speaking, 41.8 percent of the goats are in the south, 58.2 percent the north; and 28 percent in the coastal areas and 72 percent the inland areas. The major breeds of goats in China, the natural conditions of their areas of distribution, their morphology, size, and weight, their fur, wool, meat, and/or milk producing properties, their reproductive capacities, and the effects of ecological condition on the various goat breeds are summarized.

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ORG: Zhenhai County Bureau of Agriculture and Forestry, Zhejiang Province

TITLE: "Effects of Feeding Porkers With Mixed Feeding Containing Primarily Agricultural By-products"

SOURCE: Tianjin ZHONGGUO XUMU ZAZHI [CHINESE JOURNAL OF ANIMAL SCIENCE] in Chinese No 1, 5 Feb 82 pp 21-22

ABSTRACT: Based upon the feed resources of Zhenhai County, 3 mixed feeds are prepared containing mainly agricultural by-products to study feeding results. From Apr to Sep, 2 of the mixed feeds were compared at the pig farm of Yapu Commune, aside from the experiment carried out in the bureau. The 3 type of mixes contain barley, raw bran, rapeseed residue cake, fish powder, corn, cottonseed residue cake, dry sweet potato, sea shell powder, edible acid, in varied ratios. For comparison, 2 porkers were used for each group. Results indicate that the daily weight gains vary from 461 g to 537.3 g/pig, and an increase of the protein content with a reduction of the fiber content can reduce the feed consumption to raise the rate of utilization of the feed material.

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AUTHOR: YAN Yisui [0917 0110 4840]
LIU Duhui [0491 4648 1979]

ORG: YAN of Shihezi College of Agriculture, Xinjiang; LIU of Guyuan Prefecture Bureau of Meteorology, Ningxia

TITLE: "Structural Model of Oasis Agricultural System in a Desert Region: The Linear Formula of the Structure of Agriculture, Forestry, and Animal Husbandry of Shihezi Reclamation Region, Xinjiang"

SOURCE: Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 6, 24 Jun 82 pp 15-17

ABSTRACT: Based upon the process of developing the Shihezi Reclamation Region, the authors propose in the paper a concept of oasis agricultural system in a desert region to acknowledge the place and function of forestry and animal husbandry in the special environment from the viewpoint of ecology. On the basis of the historical lessons learned from developing that region and the survey data accumulated there, a model is also established with respect to the linear proportion of agriculture, forestry, and animal husbandry. Several development formulas are analyzed on the computer, using the practice of developing that region as the criterion to evaluate and examine the reasonableness of each formula for determining the final selection of the model system. The objective is to obtain the optimal economic benefit under the premises of maintaining the ecological stability and equilibrium. The Shihezi

[continuation of ZHONGGUO NONGKEN No 6, 1982 pp 15-17]

Reclamation Region was surveyed, designed, and constructed in the 50's, to compose 19 farms (communes) of 5 irrigation districts. The agricultural oasis had a total of 5 million mu of land and 2.95 million of which were cultinated. At present, there are 550 thousand inhabitants and 210 thousand of them work for the State farms. After the system was created from the desert, an oasis was established throughout the 60's to become a reasonable structure and the economic gains were very high. In the 8 years of 1958-1966, 26.7 hundred million jin of grains, 1.76 million jin of cotton were accumulated for the State, amounting to a profit of 1.492 billion yuan. Then, came such unfortunate slogans, during the cultural revolution, as "Good land is not to be used to plant trees." and "Rotating grass with crops is a foreign dogma." etc. and the forest zones and alfalfa meadows of the reclamation region were destroyed. The production dropped severely and quickly. The yield was reduced from 400 jin/mu of the early 60's to about 200 jin/mu in the 70's. In the 60's 4,500-5,000 animals were sustained by each 10 thousand mu of grassland, by the 70's the number of animals was reduced down to 1,500-2,000 heads of sheep per 10 thousand mu. In order to produce more grain to eat, alfalfa meadows were turned over for cultivation. These measures caused the profit situation to change to continuous losses. In the 11 years, the total loss of the State farms amounted to 3.84 hundred million yuan. In 1977, a new formula was adopted to restore the ecological balance of the region. It is estimated that when the optimal formula is completely realized, the current profit of 20 yuan/mu will be raised to 50 yuan/mu. The model formula is discussed.
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AUTHOR: ZHAO Xiu [6392 0208]

ORG: Deputy Minister, Ministry of Agriculture

TITLE: "Current Mission of China's Agricultural Engineering"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 2-4

ABSTRACT: With the approval of the State Council, the Ministry of Agriculture has established the Bureau of Agricultural Engineering and the China Research and Design Academy of Agricultural Engineering, as well as encouraged the establishment of the Agricultural Engineering Society since 1979, to promote the application of modern engineering technology in agriculture. Aside from the principle of achieving economic benefits and developing the field to suit China's own special conditions, the author provides an outline of the following tasks: (1) Breed superior crop varieties; (2) Carry out research on highly effective insecticides and herbicides of low toxicity to protect plants; (3) Change the structure of chemical fertilizer application and practice reasonable application of fertilizer; (4) Provide rural villages with needed fuels and resolve the contradiction between fuel, feed, and fertilizer by comprehensive utilization; (5) Design for the needs of househood auxiliary industries; (6) Work for the engineering of farm by-products processing; (7) Develop natural resources survey of rural villages. This paper is written on the basis of a speech delivered by the author at the Expanded Conference of Board of Directors of the Chinese Agricultural Engineering Society.

AUTHOR: XU Guanren [1776 0385 0088]

ORG: Member of Standing Committee of Chinese Agricultural Engineering Society; Director, Research Institute of Atomic Energy Utilization, Chinese Academy of Agricultural Sciences

TITLE: "Experts on China's Future Agricultural Construction Work: Unlimited Promise of Agricultural Engineering"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 5-6

ABSTRACT: The author defines agricultural engineering as a polytechnical and comprehensive engineering, spanning across many specialties to utilize newly emerged techniques of various types of engineering to develop, utilize, and protect natural resources so as to raise agricultural productivity, improve the rural environment, and shorten the distance between the workers and the farmers and between the cities and the countryside. The paper explains in some detail the above definition of the field. A limitless and bright future is predicted for this new field.

AUTHOR: TAO Dinglai [7118 7844 0171]

ORG: Deputy Chairman of Standing Committee, Chinese Agricultural Engineering Society and Director, China Research and Design Academy of Agricultural Engineering

TITLE: "Experts on China's Future Agricultural Construction Work: Make Many Contributions To Develop Agricultural Engineering"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 6-7

ABSTRACT: Centering upon the government's report delivered by Premier ZHAO Ziyang at the Fifth Plenum of the Fourth People's Congress, the author sets forth in the paper the tasks of agricultural engineering for the purpose of freeing China gradually from the self-supplying and self-sufficient type of agricultural production of the past to develop gradually toward a future merchandise-producing agriculture. The existing cultivated land, and the vast mountains, hills, grassland, lakes and coastal seas must all be reasonably and fully utilized. Just as Premier ZHAO said, land utilization engineering, agricultural energy source engineering, agricultural environment engineering, agricultural construction engineering, food and food processing engineering, etc. are all parts of agricultural engineering. Efforts must, therefore, be exerted to contribute to its development and it must not be allowed to fail our expectations.

AUTHOR: YU Youtai [0151 0645 3141]

ORG: Deputy Chairman of the Board of Directors, Chinese Agricultural Engineering Society and President of Northeast College of Agriculture

TITLE: "Experts on China's Future Agricultural Construction Work: Extend Agricultural Engineering Technology to Accelerate the Development of Agriculture"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 7-8

ABSTRACT: Since the 11th Plenum of the Third Congress of the party, agriculture in China has gradually and steadily been developed into a new era, but in order to develop agricultural production still further to bring about a prosperous rural economy, it is necessary to apply extensively scientific technologies to the following 3 aspects: (1) Developing the potential productivity of plants and animals with technologies of bio-sciences; (2) Improving and creating environmental conditions favorable for the growth and development of animals and plants and techniques of processing and storing agricultural by-products; (3) Business management of agricultural production to raise the economic benefits. Ways with which efforts are to be made at present toward the above goals are discussed in some detail.

AUTHOR: ZENG Dechao [2582 1795 6389]

ORG: Deputy Chairman of the Board of Directors, Chinese Agricultural Engineering Society and Vice President of Beijing College of Agricultural Mechanization

TITLE: "Experts on China's Future Agricultural Construction Work: Welcome the Coming of a New Year and March Forward in a Firm Stride"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 8-9

ABSTRACT: The work of the Agricultural Engineering Society in the past year is generally summarized to be organizing some scientific discussion meetings, starting some courses of study and some training classes, launching projects of popularizing sciences and technologies, publishing some journals, and compiled some books. In the new year, the Expanded Conference of Board of Directors has suggested the development of a program of answering technical inquiries, introducing techniques of processing, transporting, and maintaining the freshness of farm products, gradual standardization of the terminology and work procedures of agricultural engineering, and establishing some specialty committees and strengthening international scientific exchanges, etc. Finally, due to the traditional separation of departments and professions, some weak links and blanks still exist in the field and this shortcoming is especially reflected in the arrangement of specialties in schools of higher and intermediate education. This is a problem requiring an urgent resolution.

AUTHOR: ZHANG Jigao [1728 1323 7559]

ORG: Deputy Chairman of Board of Directors, Chinese Agricultural Engineering Society and Vice President of China Academy of Agricultural Engineering Research and Design

TITLE: "Experts on China's Future Agricultural Construction Work: Make It a Good Society [Scientific Association] to Develop The Field"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 9-10

ABSTRACT: The field of agricultural engineering being developed in China is not yet a familiar subject to all. It still sounds like a newfangled thing. In reality, it has contributed to agricultural production for a long time and has a long and honorable history. It may be said that agriculture and agricultural engineering are inseparable friends. For example, the irrigation structure in Dujiang of Sichuan was built 2500 years ago and remains a world famous large scale agricultural engineering. The author goes on to say that as a new scientific field, agricultural engineering had its start in 1907 when the society was established in the USA and a department was established in the University of Iowa as well as the University of Nebraska. Although the Chinese Agricultural Engineering Society was established as late as 1979, it now has more than 500 members and branch societies have sprung up in 29 provinces, cities, and autonomous regions. The author urges all members to unite to develop and promote the field.

AUTHOR: HU Qinling [5170 2953 1545]

ORG: Deputy Director, Bureau of Seeds, Ministry of Agriculture

TITLE: "Current Condition and Future Development of Seed Processing Engineering in China"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 11-13

ABSTRACT: Machine processing and sorting of seeds, including threshing, drying, and cleaning, is a new task. After the goal of seed processing mechanization was brought up at the National Seed Work Conference in 1975, obvious accomplishments have been obtained in these short years, considering the fact that it started out from nothing. In 1976-77, some sample machines were introduced from E.Germany and Switzerland and manpower was organized to draw, imitate, and manufacture. In 1978, the machines began to be extended. Today, the country has more than 5000 seed sorting machines of all types, 770 high freqency seed treatment machines, 850 low frequency current treatment instruments, 260 seed drying machines, and more than 1400 drying rooms, drying chambers, and drying pits. At present, all counties of 29 provinces, cities, and autonomous regions have machine seed sorting capability. The quantity of seeds that are machine processed has increased from the 2 hundred million jin of 1978 to 12 hundred million jin in 1980, to exclude from just wheat, rice, and corn to include Gaoliang, millet, beans, flax, and green manure. Obvious economic benefits have also been obtained; due to the improved quality of seeds, less seeds are used for planting. The 10-15 percent broken seeds after sorting are used mostly as food with some as feed. These seeds would not germinate and would have been wasted if they are used for planting. The yield increase is estimated at 5-10 percent. Of course, the seed selecting labor is also considerably lessened.

AUTHOR: CHEN Kunquan [7115 2492 2164]

ORG: Jiangxi Province Center of Science and Technology Information

TITLE: "Investigation of Several Problems in Rural Energy Source Research"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 18-20

ABSTRACT: Most recently, the author participated in the work of compiling and writing the book, RURAL USES OF ENERGY and the work of rural energy survey and encountered several real problems as follows: (1) The number of firewood-deficient households commonly figured to be 8 billion, amounting to 47.7 percent of farming households. This is not in fact a realistic figure because many of these households may be short of firewood a few months in a year only, as the concept of firewood includes dry stubble, wood shaving, husk, etc. Certain indices are proposed to arrive at a realistic figure of shortage for every prefecture, county, commune, or brigade. (2) The effective heat value needed for daily living of a farm househood varies from place to place. It is suggested by ZHANG Zhengmin [1728 2973 2404] of Research Institute of Energy Sources Chinese Academy of Sciences that to maintain a minimum standard of

[continuation of NONGYE GONGCHENG No 1, 1982 pp 18-20]

living, 424 kg of coal is needed per farmer per year. This figure may be converted into an effective heat energy of 5000 kcal. The author's survey indicates that in Rugao County of Jiangsu Province, for example, the actual needs are estimated at 3500-3800 kcal. (3) Standard heat value of farm "firewood" also varies a great deal. For example, the heat value of stubble is thought to be 3400 kcal but related department in Zhejiang Province claims that the local stubble is valued at 2000 kcal, while the average heat value of coal in Jiangxi Province is valued only at 3700. It is important to set realistic equivalent values for all different types of fuels and "firewood" so that in the North and the South everyone can speak the same language. Finally, the paper also deals briefly with problems of estimated production of firewood-producing forests, small hydroelectric power stations, small coal mines, and other related problems of operation, management, ownership, etc.

AUTHOR: HUANG Xunfang [7806 6064 5364]

ORG: None

TITLE: "On the Effects of Energy Utilization For Agricultural Production in Xinjiang"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 20-23, 10

ABSTRACT: The sources of energy for agricultural production in Xinjiang is currently composed of chemical fertilizer, oils, electric power, agricultural machines, seeds, manpower, and animal power. In 1979, 546.698 thousand tons of chemical fertilizer were applied, the production of which consumed 381.916 thousand tons of standard coal. The total oil materials used at the farms was 274 thousand tons, about 70 percent of which was for agricultural production, the equivalent of 261.8 thousand tons of standard coal. For farming machinery, including tractors, implements, trucks, irrigation and drainage equipment, etc. about 198.8 tons were used. Estimated at an energy consumption of 7 tons of standard coal to manufacture 1 ton of farm machinery, the consumption may be converted into 139.1 thousand tons of standard coal, assuming the useful life of the machinery being 10 years. The electrical power used was 37.569 billion kwh which may be converted to 95.623 thousand tons of standard coal. The manpower used for agricultural production is 2.95 million man-days. The energy contributed by these workers may be converted to 63.72 thousand tons of standard coal. There were 972,490 draft animals working for agricultural production and the estimated

[continuation of NONGYE GONGCHENG No 1, 1982 pp 20-23, 10]

total energy contribution may be converted to 60.796 thousand tons of standard coal. For agricultural production, 35.086 billion kg of seeds were used. Considering the energy needed to produce 1 kg of seeds to be 0.2 kg of standard coal, the energy consumed for the seeds is the equivalent of 70.17 thousand tons of coal. The author concludes, based upon the data thus furnished, the major problems may be said to be low utilization rate, improper application, and a disproportionate ratio, as far as the energy consumption for agricultural production in Xinjiang is concerned. First, too much energy is consumed through chemical fertilizer application, amounting to 36 percent of total. Soils of Xinjiang have a low active phosphorus content; therefore, the ratio of nitrogen and phosphorus should be 2 : 1, instead of the present 4 : 1. In terms of ecology and environmental and soil protection, the long term goal should be organic farming. There is a very great potential in the possibility of reducing the consumption of petroleum fuels in Xinjiang. The paper also offers varieties of ways to reduce the quantity of seeds used for planting and to increase labor productivity. In terms of productivity, the energy consumption of draft animals through the consumption of feed is 4 times higher than a farm machine. The author is in favor of using the feed to raise animals as meat and developing machines to take the place of draft animals.

AUTHOR: YANG Juntian [2799 0193 3944]
YUAN Borui [5913 2672 3843]

ORG: None

TITLE: "Lectures on System Engineering in Agriculture: I. General Discussion of System Engineering in Agriculture"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 1, 25 Feb 82 pp 32-37

ABSTRACT: In the early 19th century, with the discoveries of energy conversion, cells, and the theory of evolution, mankind began to notice that nature is a unified entity of events and processes that are interrelated, interdependent, interacting, and mutually limiting. This idea of unified entity is an idea of "system." System engineering is different from mechanical engineering in so far as it also involves completion, organization, planning, arrangement, etc. to provide decisions, formulas, and procedures for the purpose of realizing the optimal design, the optimal control, and the optimal management. System engineering of agricultural production; therefore, does not limit to breeding a given superior crop, producing a certain insecticide, a machine, or chemical fertilizer. It concerns the research, orgnization, and arrangement of planting, manpower, animal power, implements, fertilizer, capital, etc. for the purpose of obtaining the highest total yield and the optimal economic benefit most reasonably and effectively. This definition of system engineering in agriculture is detailed.

AUTHOR: LIU Zhongyi [0491 0022 0001]
LIU CHUANYAO [0491 0278 1031]

ORG: Both of Research Institute of Economics, National Planning Committee

TITLE: "Discussions Concerning the Prospect of Agricultural Development in China"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2, 25 Apr 82 pp 2-5

ABSTRACT: Before discussing the prospect of agricultural development in China, it is necessary to assess correctly the natural conditions of China and the current conditions of agriculture. The size of land and surface water, the number of species of seed plants, the number of species of land vertebrates, the number of species of marine and freshwater fish, the total yield of major agricultural crops, and the cultivated field, forest land, and grassland per capita are reviewed as well as China's geographic location, climate, uneven distribution of basic resources, acreage subject to frequent flood and drought damages, and the size of land occupied by cities, transportation, and industry and wasteland yet to be reclaimed. The paper concludes that the natural conditions of China dictate that the direction of future development should be multiple and comprehensive operation of farming, forestry, animal husbandry, auxiliary industry, and fishery and China's agriculture must not be limited to cropping. On the basis of the experience of the past 3 decades, the paper discusses, in general terms, the relationship between industrialization and agricultural development, difficulties and strategies of agricultural development, and the key motive power, i.e. the economic benefit for the farmers, necessary for agricultural development.

AUTHOR: LIU Jinxi [0491 0093 2522]
YANG Yacheng [2799 0068 2052]

ORG: None

TITLE: "On the Important Function of Construction Engineering in Agricultural Production"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2, 25 Apr 82 pp 6-7, 26

ABSTRACT: Agricultural modernization means instead of depending entirely upon nature, exerting efforts to create an environment, i.e. to change the natural condition to being favorable for fast and satisfactory growth of animals and plants on the limited land and other resources. It is, therefore, necessary, to emphasize constructive engineering to raise the agricultural productivity to include the development of greenhouse culture, industrialized poultry and animal hunsbandry, feed processing, seed processing, and food processing, to build various warehouses to store and keep fresh various agricultural products, and to design and construct comprehensive engineering structures for the regeneration of energy sources. If these items of construction engineering are not included in today's development agenda, the future of agriculture will be greatly affected. The paper proceeds to detail the items of construction for agricultural development.

AUTHOR: WANG Yaolin [3769 5069 2651]

ORG: None

TITLE: "Introduction and Development Condition of Plastic Film Ground Cover Cultivation Technique in China"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2, 25 Apr 82 pp 8-9

ABSTRACT: Traditionally, straw, horse manure, weed stubble, sand, and stone were used in China as a ground cover to protect moisture, fertility, and temperature. In the middle of the 20th century, with the development of high molecular compounds, the technique of using polyvinyl film was created. Japan was the first to carry out research on the subject, followed by many other countries to reap various degrees of benefits. In the winter of 1978, the technique was introduced to China from Japan. The Bureau of Science and Technology of the Ministry of Agriculture organized some units in various provinces, cities, and autonomous regions of the country in 1979 to experiment with the technique in 660 vegetable fields and obvious benefits of yield increase and early ripening were obtained. In 1980, the experimental acreage was quickly expanded to 25,000 mu of vegetables, peanuts, cotton, rice, melons, and fruits. In 1981, the acreage was developed to 220,000 mu and the technique was experimented with more than 70 crops. At present, the value of the technique has been affirmed for more than 30 types of crops. The application of the thin plastic film ground cover technique in various parts of China is briefly discussed.

AUTHOR: WANG Shishang [3076 1102 1424]

ORG: None

TITLE: "Tube-supported Single Beam Plastic Tent for Agricultural Use: PGP5-1"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2,25 Apr 82 pp 24-25

ABSTRACT: On the basis of some tube-supported plastic tents introduced from Japan in 1979-80, the Shijiazhuang Institute of Agricultural Modernization Chinese Academy of Sciences proceeded to carry out comprehensive research on their structure, properties, and experiments of their use in crop culture. In 1981, the PGP5-1 was designed and the single beam prototype plastic tent suitable for the conditions of China was manufactured by Shijiazhuang Construction Machinery Plant. At present, it is being produced in small batches for the use of various regions of the country. The structure, properties, and characteristics of the plastic tent, its range of application,and beneficial effects are briefly reported.

AUTHOR: WU Chengzhong [0702 6134 1813]

ORG: Jiangsu Provincial Science Committee

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2,25 Apr 82 pp 27-30

ABSTRACT: On the one hand there is a serious energy shortage problem in Jiangsu and on the other hand there is still a great deal of waste of energy. A survey, reported in the paper, reveals the number of households of a typical commune to be 999 in 1965 and 985 in 1980, the income to be 129.01 per capita in 1965 and 228.65 in 1980.The energy consumption in 1980 is calculated to be the equivalent of 855.4 kg of standard coal per year per household of 5 persons on the average for daily living. Due to the inefficient old fashioned stoves, the waste is about 10-15 percent. Energy consumption directly and indirectly for agricultural production is the equivalent of 3.98 million tons of standard coal, with an average increase of 16.11 percent while the increase of the value of agricultural products has only been 8.69 percent per year. The energy resources are calculated at the equivalent of 18 million tons of standard coal per year, of which bio-material energy amounts to 98 percent. Due to the high population density of the province, compared with other provinces of the country, the energy resource is only the equivalent of 360 kg of standard coal, much lower than the 600 kg per capita nationwide. The rural villagesof the province still have resources of solar, wind, and peat energy awaiting reasonable development, however. In that sense, energy self-sufficiency remains a possibility in the province. Ways of resolving the energy shortage problem are suggested.

AUTHOR: WANG Wenlong [3769 2429 7127]
YUAN Borui [5913 2672 3843]

ORG: None

TITLE: "Lectures on System Engineering in Agriculture: II. System Analysis and System Models in Agriculture"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 2,25 Apr 82 pp 40-44, 39

ABSTRACT: Analysis of an agricultural system may provide the scientific basis for establishing a new system more suitable for the agricultural ecology and economic needs. Two examples are given: (1) The Lianyuan Prefecture Institute of Agricultural Sciences analyzed the yield, ecological property, transplanting density, fertilizer application level, etc. of hybrid early rice in 36 farming areas to produce polynominal regression equations (a mathematical model) to compute the target function of the various desirable properties. Using a computer, 86 formulas were chosen from 1028 suggested formulas before analyzing other experimental data to produce, finally, 2 high yield formulas, which have now been applied successfully in production. (2) A mountain production team of Beijing was used as the target to analyze types of energy resources and conditions of conversion utilization. The

[continuation of NONGYE GONGCHENG No 2, 1982 pp 40-44, 39]

energy needs were duly surveyed and analyzed to produce an energy flow chart and a linear planning model. With the highest net gain as the target of the system, an optimal formula of solar energy comprehensive utilization plan was designed to make it possible for the capital investment to be recovered in 4 years. Applications of system analysis and mathematical models in the decision-making process of agricultural production are briefly introduced.

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CSO: 4011/177

AUTHOR: YANG Shicheng [2799 0013 6134]

ORG: Yunnan Provincial Academy of Agricultural Sciences

TITLE: "Investigation of the Oversummer Principle of Wheat Stripe Rust Pathogen in Yunnan Province"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 1-7, 22

ABSTRACT: Wheat stripe rust is a major disease in central, western, and northwestern parts of Yunnan. In a mild year, about 1 million mu are involved, amounting to 13 percent of the wheat acreage. In a severe year, such as 1981, 40 percent of the acreage, i.e. 2.7 million mu of wheat were affected to result in a yield reduction of 150 million jin. In the summer of 1979, the Plant Protection Institute of the academy carried out an investigation of the oversummer condition of the stripe rust pathogen in such severely affected areas as Anning, Lijiang, etc, and stripe rust disease was discovered on self-sown wheat and summer wheat and the same was observed during a follow-up investigation in 1980 to prove that wheat stripe rust pathogen can oversummer in Yunnan in such cool areas as Zhongshan, Gaoba, etc. In 1981, a team was organized by the institute and the Yunnan University of Agriculture to carry out an extensive survey through Kunming, Yuqi, Dali, Lijiang, Baoshan, Chuxiong, Qunjing, etc. totaling 18 communes in 7 counties to determine the areas of oversummering pathogens. Results of the 3 year study, 1979-81, are reported.

AUTHOR: LI Qiongzhi [2621 8825 5347]
LI Wenzhang [2621 2429 4545]

ORG: Both of Institute of Agricultural Sciences, Dali Bai Nationality Autonomous Prefecture

TITLE: "Epidemiological Reasons of Wheat Stripe Rust in Dali Prefecture and Ways of Its Prevention and Control"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 8-15

ABSTRACT: Dali Prefecture is located between 24°40' and 26°47' N. Lat. and is warm in the winter and cool in the summer, with plentiful rainfall. It is a wheat high yield region as well as a region of frequent summer wheat stripe rust incidences. Since the 60's, there have been 5 severe epidemics in 1963, 73, 79, 80, and 81 with ever enlarging areas of involvement, from 233.3 thousand mu in 1979 to more than 800 thousand mu in 1981. Analyses reveal that the 3 factors of wheat breed, pathogen, and environmental condition contrubute to the severe epidemics. Since 1979, the species composition of the pathogens have changed and highly toxic species have become dominant. The mountainous and semi-mountainous aroas of 2000-23000 m.in elevation are favorable for large quantities of oversummering pathogens, taking the form of summer spores to reproduce and infect continuously. Preventive measures of reasonable arrangement of breeds and cultivation techniques are extensively discussed.

AUTHOR: ZHOU Chengqing [0719 2052 3237]

ORG: Wenshan Prefecture Institute of Agricultural Sciences

TITLE: "Experimental Use of Perforated Plastic Film to Cultivate Rice Seedlings"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 19-22

ABSTRACT: Although using plastic film to cultivate rice seedlings has the advantages of producing stronger seedlings and reducing the number of rotton seedlings there are also shortcomings of having too high a temperature on clear days, and tender seedlings of weak resistance due to moisture saturation under the plastic cover. In May 81, the author and colleagues experimented with growing rice seedlings in a tent made of plastic film with prepunched holes. Plastic films in dark blue, light blue, and white were used with an open-air seedbed as the first control and dark blue plastic film without holes as the second control. The holes are punched in size of about 1 cun in diameter and 1 x 1 chi in distance. After seeding on 26 May, the films are used to make tent covers immediately. Results indicate that seedlings grow best under the dark blue perforated plastic film cover. The quality of the seedlings, the growth and development period of the seedlings, the different temperature conditions under the different covers, the yield structure factors of the seedlings, etc. are among the observed data reported in the paper.

AUTHOR: WANG Changzheng [3769 2490 2398]
DONG Zhongsheng [5576 0112 3237]

ORG: Both of Dali County Bureau of Agriculture

TITLE: "Brief Introduction of a High Yield Breed of Rice, Dianyu No 1"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 23-25

ABSTRACT: Dianyu No 1 is a hybrid rice introduced from the Yunnan Provincial Rice Cooperative Group in 1974 by LI Weicai [2621 3634 2088] a technician of the Dali County Agricultural Technology Station. The hybrid material was propagated in Zhoucheng for selective breeding to become the high yield,medium maturing, short stalk, numerous spike type intermediate Keng variety. Since 1977, it has been tested, demonstrated, and extended for 6 years. Its yield has been high and stable in warm or cold years, in sandy or clay soils, and in all areas of 1970 to 2080 m in elevation. In 1979, 500 mu were extended in the county and the yield was 1,368 jin/mu. In 1980, 2160 mu were cultivated and the yield was 1429.466 jin/mu. In 1981, 5261 mu were planted and the yield was 1457.4 jin/mu. Dianyu No 1 is beardless. The stalk is 80-90 cm in height. The spike is 15-16 cm in length, with 90-100 grains per spike. The fruiting rate is about 90 percent. The grain is short and round, weighing 23-24 g/1000 grains. The husking rate is 78 percent. The rice is white and slightly transparent, and very tasty. The key cultivation techniques are described.

AUTHOR: CUI Maokun [1508 5399 0981]

ORG: Quqing Prefecture Bureau of Agriculture

TITLE: "Varied Techniques to Take Advantage of Superior Conditions for the Yield Increase of Maize"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 33-35, 41

ABSTRACT: From the late 50's to the early 60's (1957-64) due to the influence of leftist ideas, practice became separated from reality and there was the mistaken attempt of changing coarse grain to fine grain, i.e. converting uplan fields to paddies. The maize acreage was continuously constricted and the unit yield stayed the same. The natural conditions of Quqing, i.e. the elevation, the weather, and the soil fertility, are suitable for the growth of corn and the condition of water is less than favorable for paddy rice, however. Since then, the maize acreage has been increased yearly. In 1980, it was 2.394+ million mu to produce a total yield of 126 hundred million jin. In 1981, the months of Jun and Jul were cool and rainy and the Sep was dry but the total corn yield was still 102 hundred million jin. For the production of corn, the prefecture is divided into 3 regions: the high yield region of a unit yield of above 800 jin/mu, the medium yield region of a unit yield of 500-800 jin/mu, and the low yield region of a unit yield of less than 500 jin. The breeds, the cultivation technique, the fertilizer application, etc. are all designed differently to meet the requirements of the 3 different regions. Furthermore, green manure is regularly cultivated and the accumulation of farm manure encouraged. Chemical fertilizer is applied reasonably, with emphasis on phosphate fertilizer. These and other measures adopted in the prefecture to bring about successful yield increase of corn in recent years are introduced.

AUTHOR: HE Shunchang [0149 7311 7022]

ORG: Yunnan University of Agriculture

TITLE: "Important Measures to Increase the Unit Yield of Sugar Cane in Yunnan"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 2, 25 Mar 82 pp 36-41

ABSTRACT: Since the liberation, the sugar cane acreage has been expanded from 107 thousand mu to 633 thousand mu in the province and the total cane production from 275 thousand tons to 1,844 thousand tons. The increase in the unit yield is very negligible, however. It is only from 2.52 tons to 2.70 tons/mu, while the average for the world is 3.58 ton/mu with the highest at 11.25 tons/mu. Following an analysis of the 4 factors of the yield structure: the number of effective stems, the height of the stalk, the diameter of the stem, and the weight of the stem, the paper concludes that the chief reason for the low yield condition in Yunnan is the fact that the stalk is not sufficiently high. The following mesures are suggested to overcome the problem: (1) Cultivate some autumn sugar cane in suitable areas; (2) Extend the technique of cultivating seedlings for transplanting; (3) Manage perennial roots well; (4) Carry out an 8-item regimen of cultivation technique faithfully.

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CSO: 4011/174

AUTHOR: HOU Xueyu [0230 1331 3558]

ORG: Researcher, Research Institute of Botany, and Committee Member of Biology Department of Chinese Academy of Sciences

TITLE: "Water Conservancy Engineering Must be Combined With Afforestation of the Source of Water"

SOURCE: Beijing ZHONGGUO LINYE [FORESTRY IN CHINA] in Chinese No 6, 5 Jun 82 pp 4-5

ABSTRACT: Although the rainfall of Hainan Island is very rich its distribution is not even, with 80-90 percent of it concentrating in the period from May to Oct. From Nov to Apr, the dry season lasts 4 to 6 months, with only about 10-20 percent of the precipitation of the year. During the dry season, the high temperature and intense sunlight cannot be used to serve agriculture. Drought disasters, especially in the spring, are frequent occurrence in Hainan Island and such engineering measures as the construction of reservoirs are, therefore, necessary. To a certain extent, the water conservancy structures have benefited the people of the island. For example, there were only 12 thousand mu of rice paddies in Changjiang County in the beginning of the liberation when there was no such construction. The farmers there lived on sweet potatoes. Now that the water conservancy structures have been constructed, the area of paddies has been enlarged to 90 thousand mu; beyond the rice production, the problem of drinking water for the 150 thousand inhabitants is resolved as well. The situation of Dongfang County is similar. Judging from the

[continuation of ZHONGGUO LINYE No 6, 1982 pp 4-5]

concrete condition, the Qicha Commune, for example, was surrounded by lushly forested mountains in the beginning of the liberation. The rainfall was plentiful and the local Li and Miao nationalities fully utilized this superior condition to construct reservoirs and channels to build paddies. Every year, 1.60 million jin of grains have been contributed to the State by this commune. Since 1957, as the virgin forrests at the sources of water were continuously logged, the streams gradually dried out. In 1980, the wells of the 15 villages of that commune were dry and the 5,000 inhabitants had no drinking water to cause this rich commune to live off loans and relief money, and the 200 kw hydroelectric power station to stop generating power. The author cautions that whenever water conservancy structures, such as reservoirs, are constructed, forests on the slopes within 500 m of the reservoirs should be protected and logging should be absolutely forbidden. Forests beyond the 500 m limit can only be selectively logged. Forests that have already been destroyed should be quickly restored through active afforestation, if the water conservancy structures are to continue to serve agricultural production.

6248
CSO: 4011/179

AUTHOR: SUN Sufang [1327 4790 5364]

ORG: None

TITLE: "Weather and Climate in China, 1981"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 4, 10 Apr 82 pp12-13

ABSTRACT: In 1981, the rainfall in China was unevenly distributed. Compared with a normal year, the rainfall was distributed more to the west than to the east and damages from drought and flood were rather severe in some provinces. In most areas of China, the spring was warmer than usual in 1981 and the autumn colder. In the summer, the weather was very hot in parts of the country while cold temperature damages appeared in Heilongjiang. Following the above general descriptions of the weather in China in 1981, the paper provides some details under the following headings: (1) The rain was especially frequent in the western and the norther part of the Northeast of China during the summer to result in very severe flood damages in Sichuan basin, the southern part of Shaanxi, and the eastern part of Heilongjiang. (2) The spring rain was weaker than usual in the middle and lower reaches of Changjiang; the hot summer months were not as noticeable; and seemly endless rain occurred in the autumn. (3) Spring drought was rather severe in the North and scarcely any rain in the autumn. (4) Very hot weather appeared in North China, south of the Changjiang, and South China for short periods in the summer. (5)Low temerature appeared in Heilongjiang and in most regions of the country, sustained lower than usual temperature appeared. (6) There were frequent hails in the spring and the typhoons landed during concentrated periods and the end of typhoons came later than usual.

AUTHOR: WANG Duo[3076 6993]
HUANG Yiliu [7806 2034 3812]
ZHANG Tan [1728 6223]

ORG: None

TITLE: "Yield Forecasting With Circulation Factors"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 4,10 Apr 82 pp18-19

ABSTRACT: Steyaert, L. T. 's paper "Atmospheric Pressure and Wheat Yield Modeling " in AGRICULTURAL METEOROLOGY (No 19, 1978) is cited to show the growing interest in the studies on the relationship between weather and atmospheric circulation and the yield of grains in typical grain producing regions, in recent years. The rich Taihu plain of China is a typical grain-producing region and an analysis and comparison of the weather and circulation patterns of years of bountiful and poor harvests of that region should be a worthwhile project. A formula was decided upon to define a bountiful year, using the sum of unit yields of the 3 crops of wheat, rice, and rice of that region as the index and the weather patterns and circulation characteristics of those years were compared with the other years. The years of 1953, 55, 58, 65, 66, 67, 72, 78, and 79 are bountiful years; 1950, 54, 57, 60, 61, 75, and 77 are poor years; the remaining years are ordinary years. With the data of the

[continuation of QIXIANG No 4, 1982 pp 18-19]

years of 1954-1973 as the basis, forecast equations were formulated to be used to forecast the years from 1974 to 1979 to verify the accuracy of the equations. Calculation with the equations indicates the years 1978, 79, and 81 to be bountiful, the years 1975. 77, and 80 to be poor, and the years 1974, and 76 to be ordinary. This finding confirms with the facts exactly.

AUTHOR: PANG Peiqi [1690 1014 7496]

ORG: Jiangyin County Weather Station, Jiangsu Province

TITLE: "A Method of Short-rang Precipitation Forecasting Based on Weather Periodicity"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 4,10 Apr 82 pp24-25

ABSTRACT: Using the periodic weather chart produced by the Jiangsu Provincial Research Institute of Meteorology as the basis, the paper reports an analysis with the DJS-6 computer to create a method of short-term precipitation forecasting. The method was put to use throughout the year 1981. In terms of forecasting clear or rainy days during the months of Jun and Jul, the accuracy rate was 90 percent; in terms of forecasting the grade of rainfall (classifying rain into heavy, storm, and heavy storm) the accuracy rate was 68.6 percent. The computation equation, the selection of forecasting factors, and the method of day to day precipitation forecasting using the technique of fuzzy mathematics are explained.

AUTHOR: HUANG Yan [7806 3508]
CHEN Tongliang [7115 2717 5328]
XUE Fuliang [5641 4395 5328]

ORG: All of Shanghai Municipal Bureau of Meteorology

TITLE: "Radar Observations of Typhoon 8114"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 4,10 Apr 82 pp 29-30

ABSTRACT: After typhoon No 14 of 1981 was formed in the afternoon of 27 Aug in the Pacific Ocean to the northwest of Guam, it moved steadily at a speed of 20 km/hour in the northwestern direction to reach the sea about 250 km to the southeast of Shanghai at the 02 hour on 1 Sep before gradually changing its direction. During the period of direction change, its speed is obviously reduced. Phenomena of stoppage and turn appeared in the morning of 1 Sep at a distance of about 200 km from Shanghai to cause a prolonged windstorm and high tidal waves to attack Shanghai. The authors used the 713 Radar equipment made in China to carry out some systematic studies of this typhoon. Many echo photos of 5-10-minute intervals were taken during the period of direction turning of the typhoon. Based upon these data, the hurricane zone of the typhoon and its principle of change, the echo structure in the vicinity of the eye, the whirling and deformation phenomena of the eye, and the indicative action of the echo phenomena with respect to the movement and the change of intensity of the typhoon are discussed. Finally, data of synchronized observations with a 5cm 713-Radar and a 10 cm 843-Radar are used for some comparative analyses.

6168
CSO: 4011/189

AUTHOR: YIN Hongzhang [3009 1347 4545]

ORG: Shanghai Research Institute of Plant Physiology, Chinese Academy of Sciences

TITLE: "Trends and Objectives of Plant Physiology"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 1-3

ABSTRACT: The relationship between plant physiology and agriculture and the problem of how plant physiology can serve agriculture were passionately discussed in the 60's. During the period of domination of the gang of four, the function of plant physiology in agriculture was repudiated and many plant physiology teaching and research offices were abolished and the researchers dismissed. This was a part and parcel of the gang's attack against science and culture, but the confusion thus created in terms of the field of plant physiology has not been completely dispelled to this day. The author, the Director of the Shanghai Research Institute of Plant Physiology, suggested that the subject of how plant physiology is to serve the 4 modernizations should be made a special subject of discussion in this issue of the journal, and wrote this paper to lead the discussion. In the paper, the author explains that among the many problems dealt with in plant physiology, which is a basic science, the 2 major problems are: the special structure and function of plants that are different from other organisms and how plant physiology is to serve agricultural production. In the long run, these should not be the only problems. For example, many books have been published to discuss ecological physiology, such as the Man and the Biosphere subject proposed by the United Nations organization. The most serious problem is pollution created by industrial waste water and gas, which is a part of the problem of environmental protection. The proposal of M. Calvin to use special plants to produce hydrocarbon fuel to resolve the problem of energy shortage is also briefly mentioned.

AUTHOR: ZHOU Jiahuai [0719 0857 2849]

ORG: Department of Biology, Anhui Teachers University

TITLE: "To Serve Agriculture is an Important Task of Plant Physiology"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 3-4

ABSTRACT: Citing the paper of YIN Hongzhang titled "General Condition of Plant Physiology in the USA--Report of a Visit" in which these who engage in teaching, research, and extension in the universities of the USA are described as so closely coordinated that the results of research are quickly experimented in farms and applied in practice, while problems of production serve as a feedback to promote plant physiology research, the author attempts to explain in the paper that such phenomena of production as cotton boll shedding, high yield physiology of rice and wheat, moisture physiology, respiration metabolism, material transfer, plant hormone, etc. are key subjects of research of plant physiology that have direct relationship with crop production. At present, the mystery of life should be investigated on the molecular level to produce some results, but on the other hand results of research in physiology should also be continuously expanded and applied in agricultural production. Perhaps, a field of applied plant physiology should be established to emphasize that portion of plant physiological research which is to serve agricultural production.

AUTHOR: YUAN Shichou [5913 1102 3985]

ORG: Beijing Municipal Academy of Agricultural Sciences

TITLE: "Comments on the Development of Plant Physiology in China"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 5-7

ABSTRACT: In recent years, many classical basic biological sciences, such as morphology, physiology, and toxology have not received much attention and it has even become difficult to carry out teaching and research work in these fields. The survival of these sciences has begun to be feared by many. The author claims in the paper that the future of plant physiology is really bright because it is the theoretical foundation of mankind's control of individual and colonies of plants. Undoubtedly, plant physiology will proceed deeper to the level of cells, subcells, and large molecules but the results of research on all these levels must be verified in the process of mankind's control of individual plants and plant colonies before they have practical value. With further readjustment of the national economy, there will be an urgent need of readjusting the biological sciences. First, the research work must be planned in accordance with the capability and whatever that is not urgently economically needed should be temporarily put off. The author suggests the following items: (1) Physiological analysis of high yield experiences; (2) Special research targets, such as legumes; (3) Physiological foundation of optimal cultivation systems; (4) Physiological action of organic fertilizers; (5) The physiology of distant hybridization.

AUTHOR: ZHAO Chengzhang [6392 2052 4545]

ORG: Physiology Group, Institute of Paddy Rice, Zhejiang Provincial Academy of Agricultural Sciences

TITLE: "Developing Plant Physiological Research Centering on Key Problems of Agricultural Production"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 7-8

ABSTRACT: Although plant physiology is a basic science to serve agricultural production, its importance and its place in agricultural production have not yet been given sufficient attention to this day. Under the new situation in the country, many natural sciences are facing serious challenges which will also have some effect on plant physiological research. On the basis of the author's many years of work in the field, he proposes the following viewpoints for open discussion of his colleagues: (1) Looking for research subjects in agricultural production practice; (2) Combining slow and protracted research subjects with some fast and quickly showing result subjects: Plant physiological research organizations have no centralized supervising structure neither do they have links with subordinate production departments, unlike plant breeding organizations. If the research projects all take years and years to show results, their very survival may be in doubt. Plant physiologists; therefore, should contact production departments to find short projects, such as using tissue culture to select early maturing Xian rice breeds, to gain support as well as income even if some manpower may have to be diverted from the long term projects.

AUTHOR: PANG Shiquan [1690 1102 6898]

ORG: Heilongjiang Plant Physiology Society and Plant Physiology Office of Northeast College of Agriculture

TITLE: "How Can Plant Physiology Contribute to the Modernization of Agriculture?"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 8-9, 53

ABSTRACT: In terms of ways for plant physiology to serve agricultural production better, the author offers the following suggestions: (1) Among scientists and in the society there should be a better understanding of the interrelationship between plant physiology and agricultural production, including the understanding that result of basic theoretical research may not bring about immediate productive benefit, the interrelationship and its importance remain unchanged. (2) The teaching, research, and application of results of plant physiology must be linked with agricultural production; i.e. theory must be proved to be true or false through its application in production. (3) Training a staff for the agricultural and forestry departments with skills in plant physiology, including cell membrane and enzyme physiology, environmental protection physiology, applied physiology of hormones and vitamins, physiological and biochemical techniques of analyses, new instruments, etc.

AUTHOR: ZHANG Tingbi [1728 1694 3880]

ORG: Research Office of Genetics, Wuhan University

TITLE: "A Study on the Isozymes of Haploid, Diploid, and Triploid Plants of Rice (Oryza sativa)"

SOURCE: Shanghai ZHIWU SHENGLIXUE TONGXUN [PLANT PHYSIOLOGY COMMUNICATIONS] in Chinese No 1, 20 Feb 82 pp 48-49

ABSTRACT: Haploid rice plants of relatively low vitality were obtained through anther culture and a large quantity of callus tissues were unable to become plants. The rate of success is generally even lower with Xian breeds. This phenomenon has been assumed to be caused by the unfavorable recessive gene expression following haploidy; therefore, attention is given to the study of gene function. Others believe it is caused by the culture condition and prefer to emphasize the study of the culture condition. For the purpose of clarifying the major cause of low vitality of haploid rice plants, the isozyme experiment is designed. Katayama et al have proved that haploids and quadruploids of the same breed have identical enzyme spectrum but they have not reported the isozymic expressions of haploids and diploids of the same breed. Results of the experiment indicate that the isozymic spectrum of all three is identical; the seeds of the triploid are obviously larger than those of the diploid but the fruiting rate of the former is extremely low. The vitality of the haploid and the diploid of the same gene type is obviously different and the difference is demonstrated in the size of plant, seed, and leaf. The author concludes that continuous study of the culture condition appears to be necessary.

6248
CSO: 4011/175

Plant Protection

AUTHOR: RUAN Yili [7086 5030 3810]
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ORG: All of the Institute of Plant Protection, Zhejiang Academy of Agricultural Science, Hangzhou

TITLE: "On Rice Dwarf Virus Disease. III. Host Range"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 1, 1982 pp 1-6

TEXT OF ENGLISH ABSTRACT: The host range of RDV was tested on 47 cultivated and wild gramineous plant species with the viruliferous leafhopper, Nephotettix cincticeps Uhler, and back-inoculation with the healthy leafhopper. The virus in the inoculated plants was also detected by the serological method of carbon agglutination. Host plants of RDV included 28 species of 15 genera: Oryza sativa var. fatua, O. australiensis, O. barthii, O. brachyantha, O. latifolia, O. nivara, O. glaberrima, Hordeum distichum, H. distichum var. nudum, H. vulgare, Triticum aestivum, Secale cereale, Avena sativa, Zea mays saccharata, Setaria italica, S. viridis, S. faberii, S. lutescens, Echinochloa crusgalli, E. crusgalli var. hispidula, E. crusgalli var. mitis, Alopecurus aequalis, Paspalum thunbergii, Polypogon fugax, Leersia japonica, Eragrostis ferruginea, Lolium multizlorum and Beckmannta erucaeformis.

AUTHOR: XIE Hao [6200 3185]
WANG Zhimin [3769 1807 3046]
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NI Sha [1441 3097]

ORG: XIE of the Division of State Farms and Land Reclamation, Changji County, Xinjiang; WANG, LI and NI all of the Xinjiang Institute of Chemistry

TITLE: "Studies of Wheat Streak Mosaic Virus in Xinjiang"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 1, 1982 pp 7-12

TEXT OF ENGLISH ABSTRACT: A virus was isolated from the wheat plant in Xinjiang and identified as wheat streak mosaic virus (WSMV). Its thermal inactivation point is 55~60°C; longevity in vitro 3-7 days; dilution end point 500-1000. The WSMV can be transmitted by the wheat leaf curl mites (Aceria tulipae).

Some flexuous particles approximately 700 x 18 nm and pinwheel inclusions were observed in the cytoplasm of the infected wheat leaf cell.

Systematic symptoms on Hordeum vulgare L., Triticum aestivum L., Secale cereale L., Avenae sativa L., Sorghem valgre L., Panicum miliaceum L., Chenopodium amaranitcolor Cost et Reyn and Zea may L. were produced by inoculation with the mite.

AUTHOR: WANG Qinghe [3769 3237 0735]
WU Xunchi [0702 3169 1866]
PAN Dalu [3382 1129 7120]
XU Weirui [6079 4539 3843]
et al.

ORG: WANG and WU both of the Shandong Agricultural College; PAN and XU both of the Cottor Research Institute of Shandong Province; et al.

TITLE: "Identification of Physiological Forms of Verticillium dahliae Kleb in Shandong Province (II)--Differentiation of Physiological Forms"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 1, 1982 pp 19-22

TEXT OF ENGLISH ABSTRACT: In 1978, six artificial inoculation methods of verticillium wilt of cotton were compared. Among them the method of soil inoculation combined with injuring the seedling root was found to be better than the others. Based on this method, the experiment for differentiating the physiological forms of Verticillium dahliae Kleb collected from Shandong Province was carried out. According to the reaction of resistance or susceptibility of two differential hosts, the upland cotton variety Deltapine 15 and the Sea Island cotton variety 8763 I, the 44 strains of single spore isolation so far tested were differentiated

[Continuation of ZHIWU BINGLI XUEBAO No 1, 1982 pp 19-22]

into three forms. Among the tested strains, 66.7 percent belong to physiological form I, which has been distributed widely over the main cotton areas of Shandong Province.

9717
CSO: 4011/181

Plant Protection

AUTHOR: LEI Huizhi [7191 1920 6347]
ZENG Baiqin [2580 0130 2953; deceased]

ORG: Both of Hunan Academy of Agricultural Sciences

TITLE: "Studies on the Rich White-winged Leafhopper in Hunan"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 83-87

TEXT OF ENGLISH ABSTRACT: The rice white-winged leafhopper, Erythroneura subrufa (Motschulsky), is an important pest of rice in south China. It also damages wheat in late autumn and early spring. In recent years, the insect population has tended to increase in the rice growing areas of south China.

This pest pierces rice leaves and sucks out the leaf juice and destroys the chlorophyll. When the rice leaves are seriously injured, many white streaks appear and the chlorophyll disappears. Finally the leaves dry up. Except for the black unispotted leafhopper, no leafhopper can cause rice leaves to show the symptom of small white spots.

The rice white-winged leafhopper has three generations per year. After the late rice is harvested, the adults move from paddy fields to wheat fields and weeds, and later hibernate there.

[Continuation of ZHIWU BAOHU XUEBAO No 2, 1982 pp 83-87]

The population dynamics of the rice white-winged leafhopper are closely related to the weather, farming system and cultural practices.

As for the chemical control of this pest, emphasis should be placed on the control of the hibernating insects in the wheat fields and the nurseries of early and medium rice.

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ZHANG Guangxue [1728 1684 1331]
et al.

ORG: ZHAO, ZHU and YANG, et al., all of the Institute of Water and Soil Conservation, Liaoning Province, China; ZHANG of the Institute of Zoology, Chinese Academy of Sciences

TITLE: "Investigations of Cotton Aphid Management by Utilizing Native Natural Enemies"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 89-94

TEXT OF ENGLISH ABSTRACT: Repeated chemical control of the cotton aphid (Aphis gossypii Glover) often results in subsequent serious infestations of the bollworm of even the cotton aphid itself in Chaoyang, Liaoning Province, China. Twelve species of native spiders (and other aphidophagous insect species) have been observed effectively controlling aphids below crop-damaging levels in an unsprayed cotton field for six consecutive cotton seasons (1975-1981). The area left unsprayed increased from 50 to 7817 mu in these experimental seasons.

AUTHOR: LUO Zhiyi [5012 1807 5030]
ZHANG Weinian [4545 0251 1628]
ZHOU Lili [0719 7787 7787]

ORG: All of the Shanghai Institute of Entomology, Chinese Academy of Sciences

TITLE: "Preliminary Study of Field Population of Pink Bollworm and the Effect of Insecticides"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 95-101

TEXT OF ENGLISH ABSTRACT: This article deals with the study of field population dynamics of Pectinophora gossypiella (Saunders) and the effect of application of insecticides on them during the period of 1977-1980.

The number of adults of the pink bollworm increased gradually from the first to third generations in the Shanghai suburbs, except in 1977, forming the third generation thriving patterns. The fluctuation of population of the adults and eggs in 1977 and 1980 was due to the weather during the ovipositing period.

The peak period of oviposition of the second and third generations occurred on 5-10 August and 5-10 September respectively. The degree of damage caused by the second and third generation larvae could be seen from the number of mature larvae per boll.

[Continuation of ZHIWU BAOHU XUEBAO No 2, 1982 pp 95-101]

The effect of insecticides applied to the pink bollworm was different due to different population densities. In years of light infestation, such as 1977, the number of larvae per boll was not significant between the treated and check plots or between the plots with one or four applications of insecticides. However in years of medium or serious investation, the density of larvae could be reduced more than 50 percent when the second and third generations were given one application each before the peak of oviposition.

Thus, the present study shows the possibility of reducing insecticide application in certain years.

AUTHOR: FANG Zhongda [2455 0022 6671]
XU Zhigang [6079 1807 4854]
ZHU Jialing [2612 1367 3781]
et al.

ORG: All of Nanjing Agricultural College

TITLE: "Seed Borne by the Rice Leaf Blight Organism and Its Inspection"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 103-108

TEXT OF ENGLISH ABSTRACT: Results of experiments demonstrated that the bacterial leaf blight organism (Xanthomonas oryzae) of rice was present in the seed samples from diseased fields. A large amount of phage specific to the leaf blight organisms was also found in the infected seeds. Both the pathogenic organisms and the specific phage were present in the glume of the rice seeds, and large portions of the pathogenic organism were found to be lyzed by the phage. The longevity of the phage was much longer than that of the pathogen, but the rice leaf blight organism can also survive within the glumes for at least 6 months as one of the main sources of primary infection. The route of infection of the seed borne organisms causing the infection of the seedling is still waiting investigation. Due to the fact that both the causal organism and its specific phage could be detected only in rice seed samples from the diseased field, and none of them could

[Continuation of ZHIWU BAOHU XUEBAO No 2, 1982 pp 103-108]

be found in the seed samples from the diseased rice fields, three methods of inspection were used by applying the phage technique. The most simple and sensitive method is to detect and determine the number of phages in the glumes. Another method is based upon determining the number of living bacteria by counting the number of plaques formed by the phage-infected living bacteria. The presence of the causal organism in the seed sample can also be detected by determining the multiplication of the phage in the samples after incubation. Usually this method is not necessary for routine inspection. Some steps of these techniques can be simplified. We are trying to work out a more practical method to detect the multiplication of the phage in the seed samples.

AUTHOR: FANG Zhongda [2455 0022 6671]
ZHU Jialing [2612 1367 3781]
LU Qiyu [4151 0366 3842]

ORG: All of Nanjing Agricultural College

TITLE: "Disinfection of the Rice Seeds Carrying the Bacterial Leaf Blight Organism"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 109-112

TEXT OF ENGLISH ABSTRACT: The phage-technique was applied to investigate the disinfecting effect of various treatments for killing the bacterial leaf blight organism (Xanthomonas oryzae) within the infected rice seeds. Among the treatments tested, the most promising were found to be dipping the rice seeds in a 0.5 percent solution of hydrochloric acid for 72 hours or in a solution containing 500 units of chloromycetin per milliliter for 48 hours. The phage technique is a reliable and accurate method for assaying antibiotics and other chemicals used to treat rice seeds for controlling the bacterial leaf blight.

AUTHOR: BAI Jinkai [4101 6855 6963]
PAN Shunfa [3382 7311 3127]
JIANG Jingchun [1203 2533 2504]

ORG: All of the Institute of Plant Protection, Jilin Academy of Agricultural Sciences

TITLE: "Studies on the Control of Helminthosporium carbonum of Corn"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 113-118

TEXT OF ENGLISH ABSTRACT: Ji-63 is an important inbred line of corn in Jilin Province, but there has occurred an ear-decay disease which has caused heavy loss. The causal organism has been identified as Helminthosporium carbonum Ullstrup which infects the ears and leaves on corn. The morphology and culture characteristics of the pathogen are different from those of H. maydis.

Inoculation tests made at the seeding stage in the greenhouse and at the adult stage in the field revealed that H. carbonum can only infect the ears of the normal-cytoplasmic type Ji-63 and a few other lines, and not the T- and M-cytoplasmic type sterile and other normal lines.

[Continuation of ZHIWU BAOHU XUEBAO No 2, 1982 pp 113-118]

The prevalent period of infection is from the heading to milking stages. The pathogen is mainly overwintered in the residual tissues by mycelium.

Resistance of the 655 inbred lines and hybrids was estimated in the fields in 1976-1981. Ji-63 and its selective lines were susceptible.

AUTHOR: ZHOU Jianye [0719 1696 2814]

ORG: Shanghai Wusi Farm

TITLE: "Studies on Stem Blight Disease of Cotton in Shanghai"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 2, 1982 pp 119-124

TEXT OF ENGLISH ABSTRACT: Stem blight disease of cotton is an intermittent disease in Shanghai. The causal organism (Ascochyta gossypii Sadow.) of cotton stem blight can be cultivated on various media. The fungi grow over a wide pH range, with an optimum from 6.8 to 7.8. Best growth can be obtained on a culture medium containing a small quantity of sodium chloride (about 0.1 percent). A small amount of carbon source seems necessary for germination of the spores. The optimum temperature for spore germination ranges from 19.0-22.5°C for mycelium growth. With artificial inoculation on island cotton, the disease was developed at 23°C preferably, and the incubation period on island cotton was about 1 day shorter than that of upland cotton. Furthermore, on a plant with wounds, the incubation period was 1-2 days shorter than that of a plant without wounds.

The infected debris in the soil are considered the main source of primary infection of stem blight in cotton. The reinfection occurs due to pycnidiospore dispersed by

[Continuation of ZHIWU BAOHU XUEBAO No 2, 1982 pp 119-124]

wind and rain. Temperature, humidity and rainfall are the most important climatic factors, while cultural conditions may also considerably influence the development of the disease. Daconil is the most effective fungicide for controlling the disease.

9717
CSO: 4011/184

AUTHOR: CHEN Peixian [7115 0012 7359]

ORG: None

TITLE: "The Direction and Major Responsibilities of Agricultural Science and Technology Extension Work"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 5 Apr 82 pp 5-7

ABSTRACT: At present, a new tide of learning science and using science has emerged in most rural villages. This is an unprecedented situation, appearing only after the agricultural production responsibility system was established and perfected. Yet, the tendency of emphasizing research and neglecting extension exists still and should be earnestly corrected. The author maintains that the major tasks of science and technology extension work should be as follows: (1) The chief aim should be to increase the unit yield. The cultivated acreage can no longer be enlarged and diking the lakes to build new fields is no longer feasible. The direction is, therefore, to increase the unit yield and the past mistakes of compulsion and superficial adoption must be overcome in the extension work. (2) The work of extension must not be limited to increasing the quantity of agricultural by-products; efforts must be made to improve the quality of such products. (3) Finally, in the past, in agricultural production, the cost, the labor consumption, and the profit or loss were not calculated. Today, improving the economic benefits is the urgent subject, and the work of extension must include strengthening the business management, the economic accounting, and the financial system to reduce and eliminate unreasonable expenditure.

AUTHOR: None

ORG: Special Reporter of the Journal

TITLE: "Several Opinions Concerning the Separation of Political and Commune Organizations"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 5 Apr 82 pp 8-10

ABSTRACT: On 28 Feb, the news of the Second Conference of the Constitution Revision Committee appeared in the RENMIN RIBAO. In the paper, the 2 questions of whether in the revised constitution the political and the commune organizations should be separated and if the people of the country should select to separate the two what forms of political authority and economic authority in the rural villages are reasonable were brought up. The cadres and masses of rural villages are very concerned about the 2 questions. Various contradicting ideas are introduced in the paper. The paper concludes that: (1) The basic accounting unit must be kept stable; (2) The present rights of properties of the communes and the brigades must not be destroyed. (3) The form of the economic organization must be democratically decided by the members. (4) The work must not be adversely affected. (5) Rural cadres must be satisfactorily arranged.

AUTHOR: LIU Yingxiang [00491 2019 4382]

ORG: None

TITLE: "On the Road of Primarily Organic Agriculture"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 5 Apr 82 pp 12-13

ABSTRACT: In Oct 81, the author participated in the Second International Conference of Intensive Agriculture held in the USA. He was impressed by the attention of the delegates of many countries with respect to the traditional experience of agricultural production in China. Many asked him to tell the ways of making farm compost fertilizer, ways of achieving a unity between cultivating and nurturing the land, and ways of resolving the problem of food supply under the condition of a little over one mu of cultivated land per capita, etc. Many specialists of developed countries lamented their negligence of organic farming to result in applying too much chemical fertilizer, insecticides, herbicides, and other industrial substances into the land to cause environmental pollution in the process of agricultural production. This conference inspired the author to write this paper to praise the organic farming tradition of China. He claims that the way to develop organic farming is; (1) To emphasize farm fertilizer accumulation; (2) To plant crops suitable for the land, to rotate the crops, and to turn over the stubble; (3) To improve the level of science and technology of the farmers and the basic level cadres.

AUTHOR: None

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TITLE: "Helping the Contracting Households To Raise the Economic Benefits"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 5 Apr 82 pp 23-24

ABSTRACT: The department carried out a survey of 100 households of 83 production teams of 49 production brigades of 18 communes. Of these households, 26 belong to teams practicing the system of linking production and labor consumption while 74 households belong to teams practicing contract work. Under almost identical conditions, the economic benefits of the 100 households varied a great deal; with the average per capital income of 477.12 yuan, 12 percent of the households had per capita income of above 1000.00 yuan while 22 percent had a per capita income of below 200 yuan. The reasons for the difference appear to be (1) Extensive and reasonable use of labor; (2) Level of science and technology; (3) Full utilization of land; (4) Production cost and expenditure. Ways of helping those households of low per capita income to overcome these problems are detailed.

6248
CSO: 4011/173

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TITLE: "Preliminary Investigation of "Festered Foot Disease" of Farm Cattle in Zynyi Prefecture of Guizhou Province"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 2, 20 Feb 82 pp 14-17

ABSTRACT: From the middle of Nov 79 to Apr 80, there was an epidemic of "festered foot disease" among the farm cattle, mainly water buffalos, in Zunyi Prefecture. Of the 152 production teams of the 68 communes, of the 33 districts and 8 counties (municipalities) of the prefecture, there were a total of 1,033 cases and 271 died of the disease. The symptoms started with lameness and progressed into swollen legs, festering, cracked hoofs (falling off in some cases) and necrosis of the tips of ears and tails. Following analyses of blood, feces and microbiological and parasitological examinations, as well as feeding experiments, it was tentatively diagnosed to be the result of being fed with moldy straw. Results of chemical analyses and pathological examinations are reported.

6248
CSO: 4011/180

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TITLE: "A Survey and Research of Swine Toxoplasmosis in Henan Province"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 3, 20 Mar 82 pp 4-7

ABSTRACT: For the purpose of clarifying the existence and the extent of damage of swine toxoplasmosis in Henan Province, the authors carried out an epidemiological survey, a pathogen isolation project, a serological diagnosis project, a morphological observation of the parasite bred in mice, and a project of reinfesting pigs with offsprings of parasites bred in mice. Herds of pigs in Zhengzhou, Nanyang, Xuchang, and Xinxiang were involved in the study. From late Feb to early Mar, high fever of unknown origin was discovered among pigs in the suburb of Zhengzhou and application of various antibiotics produced no effect. The blood and lymph node of one pig were analyzed and Toxoplasma was isolated. The incidence of the disease rose rapidly in Jul, Aug, and Sep, to a rate of 16-49 percent, and the mortality rate of the infested pigs was 30-66 percent, mostly among pigs weighing 30-100 jin. The clinical symptoms, the pathological signs, and the treatment and prevention measures are also reported with the results of morphological observation and experiment using mice.

6248
CSO: 4011/176

Veterinary Medicine

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TITLE: "Treatment of Schistosoma japonicum Infestation in Farm Cattle With Nithiocyanamin"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 4, Apr 82 pp 2-5

ABSTRACT: Nithiocyanamin is an antischistosomiasis compound containing no antimony. It was synthesized in foreign countries in the early 70's and has been applied for experimental treatment for various types of schistosomiasis. There are no reports of its use in veterinary medicine, however. Begining in Oct 75, the authors have experimented with this drug made in China in various forms, administration, dosages, and treatment durations to test the effects on sick farm cattle of artificially induced and natural schistosomiasis japonicum. Judging from the results of 35,787 test cases, one intravenous injection of 2 percent nithiocyanamin in water suspension is the most satisfactory. The dose for water buffalos should be 1.5 mg/kg and it should be 2 mg/kg for yellow oxen. Procedures and results of the various experiments are reported.

6248
CSO: 4011/188

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TITLE: "Genesis, Classification, and Utilization of Taigu Sterile Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 6, 20 Jun 82 pp 9-13

ABSTRACT: A sterile wheat was discovered in Taigu of Shanxi Province in 1972. It has many obvious special characteristics, compared with all the other sterile wheat plants discovered previously here and abroad and many papers have been published on the subject. Instead of comparing, this paper attempts to present an analysis of its genesis and classification for the purpose of proposing ways of utilizing it. The 8 parents of Taigu sterile wheat are all common cultivated wheat breeds, and the sterile characteristic cannot possibly be the result of interaction between abnormal cytoplasm and normal nuclear gene. It is possible that one or more of the 8 parents has a single recessive sterile nuclear gene but through the action of its own restraining gene or genes, the sterility is not expressed. It is not until after several crosses before the restraining action is finally removed to produce the sterile plant. If the number of the restraining genes is few, some sterile plants should continue to emerge; if the number is numerous, the ratio of sterile plants of the F_1 of the fertile sister lines with the sterile line would be too complex to remain constantly at 1 : 1. In reality, a single sterile plant appeared in the 6th generation and when more than 200 sister plants were used by the Research Institute of

[continuation of SHANXI NONGYE KEXUE No 6, 1982 pp 9-13]

Atomic Energy Utilization of Chinese Academy of Agricultural Sciences to cross with the sterile plant, the ratio of sterile offsprings remained 1 : 1. The paper, therefore, concludes that it is not possible for any of the 8 parents to have a dominant sterile gene. The paper proceeds to examine the mutant nature of the dominant nuclear sterility of Taigu wheat. A sterile-free line for Taigu sterile wheat is, therefore, very difficult to find and as there is no complete restorer line, Taigu sterile wheat is not useful for heterosis utilization. Citing the experiences of C. Suneson of the USA and C. Driscoll of Australia, the paper proposes its utilization in breeding new varieties of wheat.

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ORG: None

TITLE: "New Breeds Introduced"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 6, 20 Jun 82 pp 23-25

ABSTRACT: In Mar this year, the Shanxi Provincial Crop Breed Certification Committee certified 8 new breeds, including 2 spring wheat breeds of Jinchun No 6 (bred out by Institute of Alpine Crops of Shanxi Provincial Academy of Agricultural Sciences) and Jinchun No 7 (bred out by Institute of Corn, Shanxi Academy of Ag. Sci.) 3 winter wheat breeds of Jinmo No 15 (bred out by Institute of Millet, Shanxi Prov. Academy of Ag. Sci.) Jinmo No 16 (Institute of Crop Genetics, Shanxi Prov. Academy of Ag. Sci.) and Jinmo No 17 (Institute of Economic Crops, Shanxi Academy of Ag. Sci.) 2 cotton breeds of Jinmian No 4 (Institute of Cotton, Shanxi Prov. Academy of Ag. Sci) and Jinmian No 5 (Institute of Economic Crops, Shanxi Prov. Academy of Ag. Sci.) and one millet breed (Institute of Corn, Shanxi Prov. Academy of Ag. Sci.) In this paper the 3 winter wheat breeds of Jinmo No 15, No 16, and No 17 are introduced, in 3 separate chapters, with descriptions of the breed origin, the major characteristics and properties, the yield manifestation, the cultivation technique, the suitable range of utilization, and the price and procedure of purchasing the seeds. The other new breeds mentioned above will be introduced in future issues of the journal.

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END

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I. GENERAL INFORMATION

COTTON PROCUREMENT REACHES ALL-TIME HIGH

Jinan DAZHONG RIBAO in Chinese 26 Jun 82 p 1

[Article: "1981 National Cotton Procurement at More Than 57 Million Dan. Cotton Procurement in Shandong at More Than 13 Million Dan, a More Than 2.5 Million Dan Increase Over 1980"]

[Text] The correspondent has learned from the national conference on cotton and hemp procurement, inspection and processing work convened today that as of the end of May, 57 million dan of the cotton procurement quota for 1981 (from September 1981 to August 1982) had been fulfilled, with 4 million dan more procured than in 1980 to create an all-time high for cotton procurement since the founding of the People's Republic. These figures include a more than 13 million dan cotton procurement in Shandong Province, which was 2.5 million dan more than in 1980, and a more than 11 million dan procurement in Jiangsu, which was somewhat more than 2.8 million dan more than in 1980. Anhui, Hebei, Henan, Xinjiang, Liaoning, Hunan, and Jiangxi provinces all overfulfilled cotton procurement plans.

Increase in the quantity of cotton procured has provided ample raw materials for the country's cotton textile industries, and goes a long way toward ameliorating the cotton supply shortage and satisfying the needs of production in the light and textile industries. National cotton reserves were 22 percent greater in 1981 than in 1979 for a corresponding decrease in cotton imports. In 1980 cotton imports were 11 percent less than in the previous year, and in 1981, they fell by another 32 percent over the previous year.

9432
CSO: 4007/1550

SAFETY REGULATIONS FOR PESTICIDES ISSUED

Nanjing XINHUA RIBAO in Chinese 11 Jul 82 p 2

[Article: "Strictly Carry Out Regulations For Safe Use of Pesticides"]

> [Text] Editor's Note. During the years there have been many accidental deaths from pesticide poisoning. This is attributable largely to failure on the part of many communes and brigades to "centralize" pest eradication work, and to allowing individual households to buy, store, and use pesticides following institution of responsibility systems linking output to individual laborers.
>
> We have already entered the season when large quantitities of pesticides are used to control diseases and insect pests, and we should genuinely strengthen leadership in safe use of pesticides, institute a comprehensive one time check production team by production team, and institute concrete measures. In order that the broad masses of grassroots level cadres, commune members, and those specializing in pest control will be able to master knowledge about the safe use of pesticides, specially reprinted here are "Safety Regulations For the Use of Pesticides," published by the Ministry of Agriculture, Animal Husbandry, and Fisheries, and the Ministry of Public Health. It is hoped that all jurisdictions will conscientiously carry out these regulations to assure the health and safety of the masses of people.

Safety Regulations For the Use of Pesticides

Use of chemical pesticides to prevent and control diseases, insect pests, weeds, and rats is an important measure in winning bumper agricultural harvests. But unless used properly, they can pollute the environment and agricultural and livestock products, poison people and livestock, or cause death. In order to assure their safe production, the following regulations have been drawn up:

I. Pesticide Classification

On the basis of an overall appraisal of toxicity (acute ingestion, poisoning through the skin, and chronic poisoning), common pesticides currently produced have been classified as being of high toxicity, moderate toxicity, and low toxicity.

1. Pesticides of High Toxicity: American Cyanamid 3911, suhua [5685 0553], parathion, parathion methyl, demeton, shamingwei [3010 5820 1218], monocrotophos, phosphamidon, methamidophos, yibinglin [3976 0014 4340], carbophenothion, omethoate, zinc phosphide, aluminum phosphide, cyanide, furanose, fluoroacetanilide, diarsenci trioxide, shachongmi [3010 5849 518B], ethulmercury-chloride, Ceresan, kueiyangjing [3391 4046 0403], chloropicrin, pentachlorophenol, ethylene dibromide, and 401.

2. Pesticides of Moderate Toxicity: sumithion, dimethoate, phenthoate, ethion, imidan, piyinglin [4122 5859 4340], benzene hexachloride, lindane, toxaphene, chlordane, DDT, carbaryl, haipuwei [1365 2333 1218], MIPC, tsumacide, hunmiewei [3236 3528 1218], pirimicarb, fenthion, dichlorvos, juzhi [5468 7927] types intended for the eradication of insects, edinphensoph, EBP, dikesong [2420 0460 2646], 402, asomate, daojiaoqing [4470 5183 7230], tuijunte [6622 5497 3676], ambam, milneb, yanmaidi [3601 7796 2420], 2-4 D, and qingcaoan [3021 5430 5143].

3. Pesticides of Low Toxicity. trichlorfon, malathion, acephate, phoxim, tetradifon, carbendaxol, triophanate, captan, zineb, thiram, weixiuling [5494 6907 7227], IBP , Yilinlu [0044 1340 6986], chlorothalonil, nitrofen, propanil, atelajin [7093 3676 2139 3160], butachlor, lasu [2139 4790], benthiocarb, MCPA, lumailong [4845 7796 7127], diuron, trifluralin, bendasong [0058 6671 2646], dichloropropionic acid, and Hercules.

Contact with only extremely small quantities of high toxic pesticides can cause poisoning or death. Though pesticides of moderate and low toxicity are less toxic than highly toxic pesticides; nevertheless, unless rescue in time after sustained contact, death can result. Thus, when using pesticides, one must practice economy and safety.

II. Scope of Pesticide Use

All varieties for which "Pesticide Safe Use Standards" have been formulated should be used in accordance with the "standards." For varieties for which no "standards" have as yet been formulated, the following rules should be followed:

1. Pesticides of High Toxicity: Not to be used on vegetables, tea, fruit trees, or traditional Chinese medicinal plants. Not to be used for the prevention and control of insects that are injurious to public health or on skin diseases of people or livestock. Not to be used to poison rats except in rat poisons. Fluoroacetanilide is prohibited for use on farm crops and may not be used to kill rats. American cyanamide 3911 emulsion may be used only for

disinfection of seeds; it is prohibited from use as a spray. Furanose pellets may be used only for disinfecting seeds, or may be used to disinfect the soil either by being put into furrows with a tool or spread with a gloved hand; it may not be mixed with water and sprayed.

2. Pesticides of High Residual Toxicity: benzene hexachloride, DDT, and chlordane may not be used on fruit trees, vegetables, tea shrubs, Chinese medicinal plants, tobacco, coffee, pepper, or lemongrass. Chlordane may be used only for disinfecting seeds and for prevention and control of injurious subterranean insects.

Chlorophenamidine. May be used in prevention and control of red spiders on cotton and for paddy rice borers. Research results on chlorophenamidine toxicity show that its use should be controlled. It may be used only once throughout the entire period of rice growth. When 2-liang (100 grams) of Chlorophenamidine per mu in a 25-percent water solution is used, it may not be applied less than 40 days from the harvest; when 4 liang (200 grams) of Chlorophenamidine per mu in a 25-percent water solution is used, it may not be applied any less than 70 days before the harvest. It is forbidden for use on other goods, edible oil crops, vegetables, fruit trees, Chinese medicinal plants, tea, tobacco, sugarcane, or sugar beets. When used for the prevention and control of insect pests of cotton, utmost control should be exercised in the number of times and amounts used. When sprayed, direct contact between the solution and the human body are to be avoided.

3. It is forbidden to use pesticides to poison fish, shrimp, frogs, and beneficial birds.

III. Purchase, Transportation and Storage of Pesticides

1. Pesticides are to be purchased by user unit designated persons holding certificates. When buying pesticides, attention must be given to their packaging to prevent breaks and leaks. Attention is to be given the name of the item, content of effective ingredients, the ex-factory date, and instructions for use. Insecticides the uses for which are uncertain and those that have lost effectiveness may not be used.

2. In transporting pesticides, one should first check the packaging to make sure it is intact. If any leaks or breaks are discovered, the insecticide should be repackaged using designated material after which it may be transported. Ground, transportation vehicles or packaging materials that have been contaminated should be properly and promptly handled. When moving pesticides, they should be handled gently.

3. Pesticides should not be carried or placed together with grain, vegetables, melons and fruits, foodstuffs, or items used in daily life.

4. Pesticides should be stored centrally in special warehouses or special chests in production teams, work teams, or specialized work units, and be looked after by designated persons. They may not be stored in individual

households. Doors and windows should be secure; ventilation conditions should be good; and doors and chests should be locked.

5. A registration procedure should be established for taking pesticides into or out of warehouses. They may not be arbitrarily deposited or removed.

IV. Matters To Be Given Attention in Using Pesticides

1. When compounding pesticides, those involved are to wear rubber gloves, and they must use measuring instruments to weigh out the specific amount of solution or powder. They may not arbitrarily increase amounts used. Mixing of pesticides with the hands is strictly forbidden.

2. When disinfecting seeds, a tool must be used for mixing. The amount of mixing done depending on the amount of pesticide being used. Disinfected seeds must, to the maximum extent possible, be sown by machines. If spread by hand or dibbled, protective gloves must be used in order to prevent absorbing the poisons. Toxic seeds left over are to be destroyed; they may not be used either for human consumption or for animal feed.

3. Compounding of pesticides or disinfection of seeds should be carried out at a safe place distant from sources of drinking water and residential sites. A person is to be designated to be in charge to make sure that pesticides or toxic seeds are not lost or mistakenly eaten by people, livestock, or domestic fowl.

4. When using hand powered spraying devices, spraying should be done one row distant. Hand operated or power driven pesticide devices should not be used to spray from both the left and the right side at the same time. Spraying with pesticides should be stopped during high winds or during high noon temperatures. One should not overfill pesticide containers so pesticide will not slop out, contaminating the bodies of those applying the pesticide.

5. Before beginning spraying, openings of pesticide devices should be carefully inspected as should all connections, and the spraying head to make sure that screws are tight and that there are no leaks in containers to avoid contaminating pesticide leaks. If, while spraying pesticide, any stoppages occur, the equipment should first be flushed with clear water after which the obstruction can be removed. It is positively forbidden to use the mouth to blow or suck the spray head and filtering screens.

6. Places using pesticides of overly high toxicity should set up standards, prohibiting at certain fixed times the pasturing of livestock, the cutting of hay, and the digging of edible wild herbs to prevent people or livestock from being poisoned.

7. After pesticide use has been completed, spraying equipment should be thoroughly washed, and returned together with any left over pesticide mixture to the warehouse for storage. It may not be taken home. The wash water used to clean the pesticide equipment should be properly disposed of in a safe

place. It should not be poured any place on the ground so as to prevent pollution of sources of drinking water and ponds used for the raising of fish. Pesticide containers may not be used to hold grain, edible oil, wine, or water. Empty pesticide boxes, bottles, and bags are to be centrally handled. Containers used to disinfect seeds should be thoroughly washed and stored in a centrally supervised place.

V. Selection of Pesticide Personnel and Individual Protection

1. Production teams should select as pesticide personnel young able-bodied men in good health who are responsible, and they should receive a certain amount of technical training.

2. Those who are weak in body and frequently ill, those suffering from skin ailments and those who have not yet recovered health after having been poisoned by pesticides or having been otherwise ill, women who are nursing, are pregnant, or are menstruating, and those with as yet unhealed skin wounds should not spray pesticides or should temporarily halt spraying pesticides. Children are not to be taken to work sites at the time of spraying.

3. Pesticide personnel are not to drink alcoholic beverages during the period when pesticides are being applied.

4. When applying pesticides, pesticide personnel must wear protective masks over their mouths, wear long sleeved clothing, trousers, socks, and shoes. When at work, smoking, drinking water, and eating is forbidden, and hands are not to be used to wipe the mouth, face, or eyes. Horseplay involving spraying one another is positively not permitted. After work, before drinking, smoking, or eating, the hands and face should be thoroughly washed with soap and the mouth washed out. Where conditions permit, a bath should be taken. Work clothing contaminated with pesticide should be promptly changed and washed.

5. Pesticide personnel should usually not spray for more than 6 hours a day. Two people should take turns operating machine operated spraying equipment carried on the back. After spraying pesticide from 3 to 5 days, 1 day of rest should be taken.

6. Should operators get a headache, dizziness, nausea, or vomit, they should leave the spraying site at once, take off their contiminated clothing, rinse their mouths, wash their hands, face, skin, and such exposed parts, and be sent promptly to a hospital for treatment.

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CSO: 4007/482

IMPORT OF AGRICULTURAL SCIENCE, TECHNOLOGY IN NATIONAL ECONOMY

Tianjin KEXUEXUE YU KEXUE JISHU GUANLI [SCIENOLOGY AND THE MANAGEMENT OF SCIENCE AND TECHNOLOGY] in Chinese No 3, 1982 pp 35-36

[Article by Xin Naiquan [0207 6621 6112], Research Managment Department, Chinese Academy of Agricultural Sciences: "Agricultural Science and Technology Has Become a Productive Force of Ever Increasing Importance"]

[Text] Agriculture is the foundation of the national economy. Growth of agriculture depends on policies first and on science second. Agricultural science and technology must adhere to a program of serving agricultural production to give impetus to the high speed development of agricultural production. This is a major issue that bears on the building of modern agriculture as a whole and on the future of the building of socialism.

Science and technology is a productive force not only in industry but in agriculture as well:

1. Development of genetic theories and breakthroughs in breeding techniques have increased farm crop output tremendously. In 1918, American scientists bred hybrid corn, which began to be extended to cultivation during the 1920's. During the 1940's and the 1960's the speed of increased yields was a general 100 jin per mu every 10 years, and during the 1960's and 1970's, the speed of increase in yields was almost 200 jin per mu every 10 years. In 1979 more than 400 million mu were planted producing average yields of 915 jin per mu. Statistics show that among the major factors in increased corn yields, hybrids accounted for between 40 and 50 percent. After corn and gaoliang, breakthroughs in China's hybrid rice produced new takeoffs in output. The coherent matching of "three lines" was achieved in 1975, and in 1976 hybrids were extended to wide area cultivation. By 1980 the five year accumulated area of cultivation amounted to more than 250 million mu, and paddy output increased to more than 26 billion jin or more than 2.6 million renminbi in money terms. Not only did hybrid rice produce tremendous economic benefits within the country, but it is in process of moving forward in some of the countries of the world. In 1977, test plantings succeeded in Kampuchea, and in 1979 the Philippine International Rice Institute did test plantings. In 1980 China's first patent on agricultural technology was transferred to the United States where direct cuttage [4160 8422] experiments with five combinations have been conducted resulting in 1.6 to 1.8 fold yield increases as compared with local fine varieties.

2. Development of Farmland Water Conservancy and Biology Have Blazed a New Trail for Improvement of Low Yield Fields. China's plains of the Huang and the Huai have long been areas of numerous disasters and low yields. During recent years, as a result of investigation and study, a system has been worked out that uses deep ditches and a combination of lifting water for drainage and lifting water for irrigation, a combination of well irrigation and ditch irrigation, and a combination of extracting and using saline river irrigation with ditch drainage to provide scientific evidence for comprehensive control of drought, waterlogging, alkalinity, and infertility. Right now in the Lingxian and Yucheng experimental areas alone, this system is used on 150,000 mu, and the area on which it is being demonstrated and promoted amounts to 3 million mu. Grain yields per unit of area have increased from the 180 to 200 jin before control to between 465 and 513 jin. Cotton yields have increased from the former 84.5 jin to 192.5 jin. In the Lingxian experimental area, average commune member earnings increased from 54.10 yuan per capita in 1975 to 132.40 yuan. In the Yucheng experimental area, commune member per capita earnings decreased from 40.70 yuan in 1975 to 96.50 yuan in an initial change in the situation of many disasters and low yields. The red and yellow soil hills and mountain lands in South China, which are found over a wide area, are China's major soil resource. Adaptation of general methods to local situations for comprehensive control has won remarkable results during the past several years, and a group of grain, oil, and sugar production bases have been established to make a contribution to the country.

3. Development of Plant Protection Science and Chemistry Has Effectively Reduced and Controlled Diseases and Insect Pests, Has Reduced Losses, and Has Increased Output. Locusts have plagued China throughout history. Since the founding of the People's Republic great results have been scored through the organization of researchers to go into locust areas to investigate and study, and to summarize experiences. Incomplete statistics show a former locust area nationally of somewhat more than 60 million mu, which has now been reduced to somewhat more than 14 million mu. Between 1956 and 1965 more than 30 billion jin of grain was saved thereby. Rust is China's most serious wheat disease. In 1950 it was prevalent throughout the country reducing output by more than 12 billion jin. In 1964 it again caused damage over an area of 120 million mu. In Hebei, Shandong, Jiangsu, Shaanxi, Shanxi, Gansu, and Beijing alone, it reduced yields by more than 2 billion jin. In 1965, with the loving concern of Premier Zhou, the State Council approved a national cooperative program for the eradication of wheat rust, further intensified scientific research, and put forward a comprehensive policy of prevention and control of "taking disease resistant varieties as the key supported by chemical prevention and control and farming methods." Since 1965 damage resulting from epidemics of wheat rust has been substantially controlled for an annual wheat saving of more than 2 billion jin, which converts to 250 million renminbi.

4. Growth of Animal Husbandry Science and Livestock Feeding Science Has Doubled the Return on Livestock Feed and Greatly Shortened the Feeding Cycle. Hybrid heterosis has been widely applied to chickens, hogs, and cattle. In the United States in 1956 hybrid chickens accounted for 73.4 percent of those sold; in Japan in 1969, it was 76 percent; in Canada the finest eggs came from

hybrid chickens, each hen laying 258 eggs each year, each egg weighing 61.3 grams, with a feed consumption rate of 2.45. Breeding has produced remarkable successes in hog quality. Danish "Landraces" are a world famous bacon type hog variety characterized by much lean meat and an average daily weight increase of from 623 to 737 grams, and for which the feed consumption per kilogram of weight gain has been reduced from 3.76 kilograms to 2.93 kilograms. In California, American buffaloes have been crossed with beef cattle to breed a new variety of beef cattle called "beefaloes." In the course of a 8 to 10 month period of grass pasturage, body weight reaches 454 kilograms; meat quality is good and production costs are low. As a result of innovations in power and machinery science and technology, in particular, the mechanization and factorization of chicken, hog, and cattle raising have developed very rapidly, tremendously increasing labor productivity rates. Under conditions of factorized feeding, at 8 months meat chickens weigh 2 kilograms; at 6 months fattened hogs weigh between 90 and 100 kilograms; and high producing milk cow herds average 8,000 to 9,000 kilograms of milk per cow annually.

One can see clearly from all this the role of agricultural science and technology. Agricultural science and technology as a productive force will certainly more and more demonstrate its tremendous power. However, our understanding of the productivity of agricultural science in the practice of production is very inadequate and the pernicious influence of it being "all right to have or not to have" is rather serious. For this reason, it is necessary to hasten the pace of agricultural science and technology so that scientific research will be in the forefront of the building of production, and science and technology applied to increase labor productivity and the development of agricultural production. This is a key measure in educating and leading the broad masses to bring about the modernization of agriculture.

If agricultural science is to be in the forefront of the building of production, it is necessary, first of all, to provide agricultural production with the fruits of science and technology. The new tasks and new problems that development of agricultural production raises require that we study and explore, on the basis of the objective laws of agricultural production, the various possible problems that can crop up in each stage of development the better to prepare promptly ways and means of solving them, and to increase scientific and technical reserves. Such an anticipatory development of scientific research can make the most of the tremendous role of agricultural science and technology in guiding production and in giving impetus to production.

If agricultural science and technology is to be in the forefront of the building of production, it is also necessary to steadily pioneer new fields of science and technology, to fill in gaps, and to strengthen weak links. Because of the permeation of modern mathematics, physics, chemistry, and biology, profound changes have occurred in agricultural science and new leaps have occurred. Examples include use of atomic energy and computer technology achievements to study the application to agriculture of research on isotope and nuclear technology and electronic computers. Since the 1970's, the United States has used remote sensing technology to observe from earth resource satellites the earth's soils, changes in fertility, changes in readication and spread of diseases and insect pests, drought and flood disasters and agricultural crop output forecasts in an extremely broad field of applications. In the past the United Kingdom conducted several soil utilization surveys, each time mobilizing 6,000 people to work steadily for 6 years. In 1976, they conducted their fourth survey using data from earth resource satellites using only four people and 9 months' time to complete the job, which was several times better. All these things have meant extremely tremendous progress for agricultural production and techniques. New developments in modern science and technology are occurring at an unprecedented pace and scope, and their application to agricultural production is promoting the modernization of agriculture.

If agricultural science is to be in the forefront of the building of production, it is necessary to vigorously intensify application of basic research. Back in the 1950's, Premier Zhou reminded us that "If we do not promptly devote more attention to long range needs and theoretical work, we will make a very great mistake. Without a certain amount of research in theoretical science as a foundation, there can be no fundamental progress or innovation in technology." Application to agricultural science of basic research depends on development of social productivity and the application of newly emerging technology. It is, in addition, the leading edge of all agricultural science and technology. Consequently, vigorous intensification of the application of basic research such as investigation of soil, water, and agricultural climate resources and agricultural crop, livestock and poultry variety resources, as well as genetic breeding, and the physiological ecology; application of basic research of major significance for agricultural science and agricultural technology such as genetic engineering, photosynthesis, the fixing of nitrogen by plants, and resistance mechanisms also require active research and exploration. Even if it is difficult to see for the time being the actual uses to which basic research can be applied, where conditions permit, appropriate resources should be devoted to it. Only when attention is given the application of basic research and there are abundant scientific reserves can impetus be given the development of all agricultural science and technology to spur on major technical innovations or even a technical revolution.

Since the Third Plenary Session of the 11th Party Central Committee, the situation on the agricultural science and technology front has been very good. Under the leadership of the CCP Central Committee, we must do all around planning, equitably distribute, readjust and restructure the agricultural research system, revive and perfect the system of promoting agricultural technology, take vigorous action to hasten the building of an agricultural science and technology corps, gradually improve conditions for research work, install the required instruments and equipment, and upgrade agricultural science and technology with all possible speed so that agricultural research will be in the forefront of the building of production, making new contributions to realization of agricultural modernization.

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NEW TASKS IN DEVELOPMENT OF FARM MACHINERY OUTLINED

Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 1, 1982 pp 1-6

[Article by Hua Guozhu [5478 0948 2691], Chinese Academy of Agricultural Mechanization Sciences: "New Tasks in the Development of Agricultural Machinery"]

[Excerpts] (Summary) This article analyzes the new requirements in all around development of the mechanization of agriculture in the new situation of development of China's agricultural economy. The article presents some ideas about research tasks and improvements in research organizations for agricultural mechanization, the design and manufacture of new farm machines, for new sources of energy for agricultural use, and for improving quality of research personnel and strengthening management of research.

Research and development work is rooted in the needs of the development of production and in service to economic development. During the past more than 30 years, agricultural machinery developmental work has gradually developed in accordance with needs for development of agricultural production, for supplementing old farm implements, promoting new farm implements and actively carrying out the mechanization of agriculture, for improving old farm implements, for introducing, experimenting with, designing, and promoting new farm implements pulled by animals, for copying, and for improving and manufacturing mechanized farm implements, with many achievements having been made. Today China has more than 200 million horsepower of electro-mechanical power, and about 2,000 mechanized implements of various kinds, specifications, and models for farm and pastoral use. These are in use in all areas of agricultural production where they increase the capabilities of agricultural labor, decrease damage to agriculture caused by natural disasters, promote the carrying out of measures for increased production by the farming and livestock industries and their completion on time, and play a major role in increased agricultural production and earnings, increased peasant income, and development of the agricultural economy.

Despite waterlogging in the south and drought in the north during 1980 such as has rarely occurred in several decades, a bumper harvest was won in agriculture. Grain output totaled 636.44 billion jin, making it the second highest year for output, second only to 1979, since founding of the People's

Republic. Outputs of cotton, oil-bearing crops, sugarcane, sugar beets, jute, ambari hemp, silkworm cocoons, and tea all reached all-time highs. Substantial increase occurred in livestock production, output of pork, beef, mutton and goat totaling 24.19 billion jin, a 13.5 percent increase over 1979. Fairly rapid development also took place in rural commune and brigade economic diversification and in commune family sideline occupations. Gross earnings for the country's commune and brigade enterprises totaled 61.4 billion yuan, a 22 percent increase over the previous year.

As a result of increased agricultural production, a prise rise for the principle agricultural products, and development of commune household sideline occupations, peasant income increased strikingly. Data from the State Statistic Bureau show that during the past 3 years peasant income from the sale of commodities and from other labor or service activities has increased by a total of 31.04 billion yuan. Accompanying increase in peasant income has been a corresponding improvement in their livelihood. During 1980 more dwellings were constructed in rural areas than in any of the past 30 years.

As a result of rural economic development and readjustment of the structure of agricultural production, the peasants have raised new demands for the mechanization of agriculture. As peasant incomes have increased, the ability to buy farm machines has risen. In 1980 total personal outlays by commune and brigade peasants to buy machinery were greater than in 1979. Most rural areas practiced the contracting of production or work tasks to individual households with a curtailment of the scale of farming and the size of some field plots becoming smaller, purchases of farm implements being done by individual households or an association of households (a new collective economic body). Thus need for low power farm implements with associated equipment, hand tractors, animal-drawn carts, small water pumps, spraying machines, threshers, rice flour processing machines and grinding machines has increased. In a small number of areas where production levels are fairly high and collective farming is done, there is continued need for development of large and medium size farm machines, which places higher demands on farm implements. In the case of planting machines, for example, the need is for both precision and semi-precision machines. Threshing machines that simultaneously clean the grain are wanted, and combines are wanted for harvesting. Dryers are needed for grain, tea, tobacco and tremella, but since water content and drying requirements differ for various things, drying machines must be of diverse kinds.

In equitable readjustment of the structure of agricultural production and of crop patterns there will be improvement in the growing of grain crops to increase yields per unit of area, and there will be all-around development of economic crops and of forestry, livestock raising, sideline occupations, and fisheries. In the development of agriculture, there will be an adaptation of general methods to local situations for a strengthening of both biological and engineering measures. Accompanying increase in agricultural products will come an increase in the amount of transportation, processing, storage, and marketing. Increase in avenues of agricultural production will mean greatly increased demand for varieties of farm implements.

Expansion of peasant self-determination in production also entails deciding for themselves the farm implements to be selected. The peasants not only demand farm implements that work well and meet agricultural production needs, but also demand good quality, durability and dependability, and low prices so that after using the farm implements they will be able to derive greater economic benefits.

From this may be seen that the new situation in development of the agricultural economy has brought about new changes in requirements for the mechanization of agriculture. With the development of agricultural production and the passage of time, agricultural mechanization will enter a new era of all-around development. Agricultural mechanization will change from primarily serving grain farming to serving development of all of large scale agriculture, and the farm machine industry will be required not only to provide implements for consistently high grain output, but will also be required to serve development of economic crops such as cotton, edible oil, sugar and tea, the development of forestry, livestock raising, sideline occupations and fisheries, and serve the building of agricultural bases and improvement of peasant livelihood. The farm machine industry will have to provide diverse kinds of implements and equipment for farm use. Agricultural mechanization will gradually change from the basic mechanization stage, with mechanization of several major operations, to all-around mechanization with the use of machines in all the places and all the units in which machines can be used. This is an objective law that cannot be changed by people's wills. The laws of development of agricultural mechanization in foreign countries have been like this, and the laws of development of agricultural mechanization in China will also be like this. Naturally, in individual areas or individual production units there will also be the problem of how to go about mechanization, i.e., what to mechanize first and what to mechanize last. Formerly mechanization was begun with things urgently requiring action or with key projects, but now selective mechanization has to be done. Projects for mechanization have to develop from the few to the many; machine techniques must proceed from the simple to the complex; and the extent of mechanization must go from low to high. For the country as a whole, very great increase will take place in what is mechanized, and in the kinds and specifications of farm implements. Nevertheless, the extent of mechanization and quantities of machines required will depend on development of the rural economy, on changes in agricultural work forces, and on the ability of the state to supply energy and provide equipment and support funds for gradual development.

2

Scientific research serves economic development. It must proceed ahead of the build-up of production. Farm machine research must be based on the needs for overall development of agricultural mechanization. While continuing to carry out product research, renewal, replacement, and filling in associated equipment gaps, it is necessary to strengthen research for agricultural mechanization, conduct scientific forecasting for development of agricultural mechanization, strengthen research on basic design and manufacturing techniques for farm machine products, develop farm machine science and technology that fits in which China's technical and economic levels, and make all-around arrangements for farm machine development tasks on this basis.

(1) Development of Agricultural Mechanization Science and Technology and Research on Technology and Economics. During the past several years all-around zoning of agricultural mechanization has been launched through centralized arrangements made by the state. From a foundation of old agricultural mechanization zoning work, new achievements in agricultural zoning work have been used, emphasis being layed on improving analysis of data derived from the summarization of experiences in agricultural mechanization and on study of technological and economic problems, on investigation and analysis of conditions and characteristics of agricultural mechanization, with designation on the basis of conditions and characteristics and on the basis of the principle of relative consistency throughout the farm machinery system of nine category 1 zones and 36 category 2 zones, the emphasis, steps, and methods for development of mechanization being put forward for the two zone categories. Additionally, on the basis of analysis of adaptability of farm implements and experiments with them plus study of equitable allocation of groups of machines, requirements for farm machinery systems, for development of implements, and for placing them on the market were put forward. This was a task of strategic importance in the development of agricultural mechanization.

Agricultural mechanization must be technically feasible and economically effective. Study of the technology and economics of agricultural mechanization is a foundation for development of so-called applied technology suited to the country's manufacturing and utilization levels, to the level of its agricultural economy, and for the effective development of agricultural mechanization and agricultural machine science and technology. In recent years farm machine scientists, technicians, and management personnel have worked together with economic experts to study technological and economic theories pertaining to agricultural mechanization, and to study technological and economic indicators and evaluation methods, achieving initial results therefrom. They are now actively studying mechanization and the employment of workforces, and mechanization and increases in output and earnings. An additional large number of technological and economic problems such as economic evaluation of new products, new techniques, and new technologies, standards for scrapping old machines, economic analysis of various technical plans, optimum distribution of fuel oil, etc., are in urgent need of research.

(2) Continued Development of New Lines of Farm Implements. Renewal of farm implements cannot be a simple matter of exchanging the new for the old, but rather new articles of higher technological and economic levels must replace outmoded products. Thus, old products must be improved on the basis of requirements for improving efficiency, improving quality, lowering energy consumption, providing a complete line of equipment, san hua [0005 0553], and safe operation. In order to meet the current scale of agricultural production and purchasing power, emphasis must be placed on various kinds of small power machines and associated equipment for plowing, drainage and irrigation, harvesting, processing, hauling, processing of livestock feed, the feeding of poultry and livestock, and farm implements operated by manpower or animal

power. In order to meet needs for improving intensive farming and increasing both yields and earnings, it is necessary to develop a swivel-plow, precision and semi-precision planting machines, machines for deep application of fertilizer, machines for use in the method of slight cultivation that conserve energy and protect the soil, and large cereal grain combines; machines for planting, caring for, harvesting, and processing economic crops, machines for high spraying of pesticides, and machines for processing of agricultural products, dryers, and hauling; machines used for digging ditches, draining water, and clearing away sediment for use in the capital construction of farmland; machines used in the growing, harvesting, storage and harvesting of seeds of pasture grasses to improve pasturelands; 120-160 horsepower tractors and associated farm implements; machines used in the breeding of aquatic products for pond construction, collection and processing of feed, pond harvesting, and in breeding and harvesting in ocean shallows.

(3) Increased Reliability and Useful Life of Farm Machinery. In addition to fulfilling technical performance requirements, modern farm machine products must also be sensibly designed, be reliable, and durable. Therefore, overall improvements are needed in design and manufacture. Study of complete machines must be set on the basis of systems requirements, overall machine unit requirements, and sanhua [0005 0553] requirements. There must be study of the parameters of work components and transmission systems to improve work performance. Modern design methods should be used in combination with traditional experiences in designing. On the basis of strength of individual components, improvements can be effected in the structure and in the selection of materials. It is now possible to gradually set up design and testing standards for farm machine strength beginning with the chassis. In accordance with specialized production requirements, it is necessary to study manufacturing technology and assembly, to improve production management and quality control to assure manufacturing precision and product quality. Testing of models and simulation experiments are necessary to hasten the testing process and shorten the check-out period. In addition, it is necessary gradually to apply the theories and methods of human engineering to study improvements in safety and comfort. Improvement in farm machinery work efficiency, reliability, durability, and comfort can increase both expenditures and raise product costs. Thus it is necessary to study and apply the methods of product economics and value engineering to carry out study and analysis in the expectation of getting optimum economic benefits from the development of farm machinery science and technology.

(4) Extensive Development of Energy Conservation Technologies and New Sources of Energy for Farm Use. In the short term, lack of fuels and electric power are the major limiting factors in development of agricultural mechanization. Conservation of energy consumption and development for use of new energy sources possess extraordinary significance.

One important aspect is improvements in the design of internal combustion engines, which is already being given serious attention and is being actively studied. However, improvements in the operating efficiency of farm implements can also effect very great savings of energy in some cases and are deserving of attention. For example, research on water-powered models of water pumps shows an increased efficiency of more than five percent for underwater electric pumps used in agriculture, and a two to three percent efficiency increase for large axial flow pumps, both of which are scientific research achievements from which results can be obtained through the organization of promotion. Strengthening of management of oil supplies and reduction of leaks and waste of oil supplies, promotion of light plowing methods, multiple operations, and rationally configured implements, and increased efficiency in use can save on oil consumption and should be done.

China's rural villages are farflung, and in many places local energy resources may be developed for use. In the mountain regions of the south, for example, water power resources are abundant. On the grasslands and along the southeastern seacoast, windpower resources exist that can be used. On the high plateaus and in most rural villages solar energy resources are abundant, and in places where there are coal resources nearby, coal and plant stalks may be used for energy. Places that raise a substantial number of hogs may build large and medium size methane pits and use methane to power internal combustion engines.... Local energy must be developed through the adaptation of general methods to local situations to serve agriculture. Promotion for use of small hydroelectric power generators, solar-powered hot water devices, motors that run on either methane or diesel oil, increasing the number of scientists and technicians doing research on energy use, increased use in agriculture of wind-powered machines, and methane gas generating equipment that uses agricultural materials are all necessary.

(5) Establishment of Scientific Research Methods. During the past several years special research units subordinate to government ministries, some provincial and municipal agricultural institutes, and several major farm machinery institutes have strengthened scientific research methods, installing advanced testing apparatus and small or mini computers. Some have set up various specialized experimental facilities such as soil troughs [0960 2864], threshing test benches, water pump test benches, and remote sensing equipment. Some have installed data handling equipment such as spectrum analysis instruments. Certain individual specialities are already able to conduct fairly sophisticated experimental research. However, in the farm machine industry as a whole research methods are still farily backward; specialized testing equipment is fairly little, and simulation experiments or experiments using models and such rapid experimental methods are virtually not used. Because of the lack of fairly large computers, operations requiring a large volume of calculation are impaired. It is now necessary to continue on the basis of development needs to plan to build new experimental equipment. Existing experimental methods should serve scientific research, play a role, and be further improved. In the case of expensive and rare equipment, in particular, there must be mutual sharing among the haves and the have nots and mutual support to increase the equipment's utilization rate.

3

In order to meet the new situation of all-around development of agricultural mechanization, it is necessary to make further use of the role of the available scientific research corps. China has already begun to set up a farm machinery research system composed of special research organizations under government ministries devoted to agricultural machines, tractors, internal combustion engines, livestock industry machines, and the mechanization of agriculture, provincial, municipal, and autonomous region farm machine (and farm mechanization) research institutes and farm machine experimental stations, as well as prefecture and county farm implement offices, promotion stations, industrial plant research and design institutes (departments or offices). Units number more than 1,000 and research personnel number almost 10,000. For a long time, they have been engaged in the design of new products by the institutes. In quite a few units, personnel have concentrated on designing a small number of grain crop planting machines and have made definite accomplishments. However, because of unclear divisions of labor and overlapping work, waste has been considerable. Now, if there is to be all-around development of farm machinery and the science and technology concerned with it, the old rigamarole will have to go and the mentality emancipated to open new territory in farm machinery research, and to blaze a new trail in the development of agricultural machinery.

(1) Development of New Farm Machines By Industrial Plants for the Most Part. Farm machinery plants should serve their customers by rapidly changing products and manufacturing techniques that have endured without change for several decades. They should proceed from real requirements in agricultural production to develop new products. To this end, they must reorganize research, design, and technological ranks within the plants, make use of scientific and technical personnel, and study new techniques for developing new products and for manufacturing.

As the scientific and technical corps in industrial plants grows, research units should gradually cut back on product design functions to devote themselves more to scientific research to advance in depth and in breadth in agricultural machinery science and technology, intensifying research on agricultural mechanization problems, on farm machinery design, manufacturing and basic techniques, and on energy technology for agricultural use. They should strive to develop new techniques and provide new results for agricultural mechanization and for development of new lines of farm machines and their production techniques.

Farm machine research works bears both on industrial technology and on agricultural techniques. Only when industry and agriculture are coordinated can there be results. Currently in some of China's farm machine research a split exists between industry and agriculture, with industry frequently caring nothing for agriculture and agriculture ignoring industry. In proceeding from what helps provide farm machinery research results, farm machine research units should not separate industry from agriculture; farm machine product research and farm mechanization research should be closely linked. Moreover, in order to maintain steady development of farm machine research work, research units should be less subject to the administrative system and should have a certain independence.

(2) Adaptation of Measures to Suit Personnel to Make Use of the Role of Research Personnel. Research work is somewhat exploratory in nature. To a fairly large extent, research results depend on the enthusiasm and creativity of research personnel.

At the present time, China's farm machine research personnel are composed largely of three groups. The first group is old research personnel who have a good theoretical foundation and abundant experience, but who are fairly advanced in years. A large number of them have been engaged for a long time in management of science teaching and are now engaged largely in the work of organizing and leading technical vocational work. The second group is composed of middle age research personnel with a good professional grounding, practical experience, and who are in their prime. They are the main force presently directly responsible for research work, and a considerable number of them are technical mainstay cadres. However, their learning and living conditions are rather poor, and a fairly large part of their time is spent doing housekeeping chores. The third group consists of young research personnel who have been graduated during the past few years. They are young and full of vigor, but their grounding is rather poor as a result of the 10 years of turmoil. Some of them have worked hard and studied arduously for a long time, and are now beginning to become research mainstay cadres.

Now is the time to make distinctions in individual situations and adapt measures to suit personnel in order to make use of individual strengths. To make use of the role of mainstay research cadres, mainstay cadres should form a nucleus with reasonable numbers of associates and assistants being provided in order that their research will bring achievements. Except for a small number of mainstay research cadres required to participate in leadership and management classes, most should be given priority for fairly good working and living conditions, exempted from duties, and allowed to concentrate their energies directly on scientific research to produce research results and gradually become genuine experts, not just specialized experts in name only.

It should be noted that among research personnel today a problem of outdated knowledge exists that requires rotational training and augmentation of required basic theories to meet work needs, mastery of necessary modern research techniques and methods, more active participation in academic exchange, enlivening of academic ideas, and all-around improvement in the quality of researchers.

Research personnel should be good at innovating. They should be able, on the basis of production needs or the needs of scientific and technical development, to create new specialized fields and develop new technologies. Right now China's farm machine researchers are faced with a new situation of all-around development of farm machines. They must boldly accept this new task, pioneer new territory, and make new contributions.

(3) Strengthening of Research Management. The level and speed at which science and technology develop are determined, to a certain extent, by the level and quality of management work. Modern science and technology, and

particularly development of farm product technology, relates to many specialities. For example, research and development of any farm machine product involves agronomy, agricultural mechanization, products and spare parts and their basic technologies, and technical economics. Consequently intensification of research management and the organization of numerous units for concerted action plays an ever greater role in winning research results.

Scientific management should include three main aspects: direction, implementation, and application of results.

First is the direction of research. Farm machine and farm mechanization research is developmental research, and research topics should have fairly well defined goals, i.e., the technical levels and economic results to be attained. Second is organization for implementation, including tasks and forces, balanced conditions, and logistical services to create conditions that will assure orderly development of work on the front line of research. Third is prompt evaluation and spread to production of research results to translate science and technology directly into productivity.

Research management should set up priorities in accordance with research work laws from the selection of research topics, to deciding research topics, to execution, to evaluation, and promotion, and should put forward requirements for individual stages of research.

In order to assure smooth progress in the research work and win anticipated results, it is necessary to establish various kinds of technical, economic and even political responsibility systems. Personnel engaged on problems should mainly be technically responsible and results obtained should be technically feasible. Personnel responsible for tasks and institute (or laboratory) leaders, should be both technically and economically responsible to assure that results have economic value and that economic benefits derive from research investment. Through research they should come up with mathematical models to check on economic responsibility of all categories of personnel. Ours is a socialist country in which all work is under the leadership of a unit CCP Committee. Consequently, CCP committees have comprehensive political responsibility for insuring that units play a role in national construction.

4

To summarize the foregoing, China's rural villages rely on policies and on science to begin to direct agricultural development in accordance with economic laws and natural laws. The state of the agricultural economy is very good and places new requirements on agricultural mechanization for all-around development, for developing farming, forestry, livestock raising, sideline occupations, fisheries, and commune and brigade industries, and for improving the peasants' livelihood.

Farm machine research has to come before development of the agricultural economy. Farm mechanization zoning and research on machine systems and on technological and economic problems must be intensified to provide data for agricultural mechanization and for development of new farm machine products. On the basis of the all-around development of a new situation in agriculture, all-around development of farm machines requires fullness of varieties and numerous specifications. In the short term, emphasis should go toward the adaptation of general methods to specific situations to develop small farm implements and to develop energy saving techniques and new energy sources for agricultural use.

For all around development of farm machines, farm machine research will have to blaze new trails, and bring into play the role of industrial plants in developing new products and new production techniques. Research units should do more scientific research, suit measures to personnel, train and make use of specialists, scientists and technicians, replenish and improve research methods, practice scientific management in accordance with the laws of farm machine research work, emphasize attention to a balance between the direction of research problems and conditions and to the spread of results. In this connection, they should establish research priorities and formulate various kinds of responsibility systems for research and management personnel so that research units will be able to work under fairly stable conditions to produce more results and people of ability.

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NATIONAL SOIL CLASSIFICATION SYSTEM EXPLAINED

Beijing TURANG XUEBAO [ACTA PEDOLOGICA SINICA] in Chinese No 2, 1982, pp 97-104

[Article by Xi Chengfan [1598 2110 5672] and Zhang Junmin [1728 0193 3046], Institute of Soil Science, Chinese Academy of Sciences, Nanjing: "The Soil Regions of China"]

[Text] Modernization of China's agriculture entails not only steady increases in grain output but also increase in quantity and quality of the agricultural products derived from forestry, animal husbandry, sideline occupations, and the fishing industry to provide the needs of production and of the people's material life. Therefore, rational utilization of water, soil, sunlight heat, and such non-biological resources, and of animal and plant biological resources, and making the most of the advantages that China's natural conditions provide are important tasks in advancing the modernization of agriculture.

Soil is one of the major elements constituting natural resources. Across the 9.6 million square kilometers of China's land are distributed diverse kinds of soils, which form the foundation for overall agricultural production. Because soil properties differ, their production potential and the ways of improving them for use also differ. In order to suit planting to soil characteristics, improve use according to soil characteristics, and conduct management of farming in accordance with soil characteristics, regional characteristics must be analyzed, and soil combinations found in different regions explored to provide a scientific foundation for planning and developing production.

China has conducted soil investigation and research work for half a century. From a foundation of on-the-ground investigation and research of the country's soil and summarization of experiences in the management of soil use and nurturing its fertility, a large amount of scientific data has been accumulated and forms the principal data for conducting soil zoning.

In 1958, Mao Rongzhi [7456 3310 0037] et al proposed the following zoning scale: zone, region, belt, sub-belt, province, soil region, and soil belt. Five zones were delineated, namely the cool temperate zone, the temperate zone, the warm temperate zone, the sub-tropical zone, and the tropical zone, plus the Qinghai-Tibet Plain region. Division of zones into regions was done, in the case of the warm temperate zone, as the forest brown earth region, and the arid forest and forest grasslands cinnamon soil region. The principal basis for divisions were: natural vegetation cover types and soil regionality. Soil regions were subdivided into soil zones and sub-zones, delineation of which was done on the basis of the soil's bioclimatic zone characteristics. Further subdivision was done as flatlands, semi-mountain and mountain regions, and province categories. Division below the province was by soil region. No further division was made beyond soil zone. Soil zoning in the "Collection of China Nature Maps" of 1965 was generally the same as this. It contained six to seven categories. In such a method of delineation the levels of each category are clearly demarcated and the reasoning is rigorous, but because of the overly large numbers of categories and the overcomplexity, soil region characteristics do not stand out clearly enough, and the system is hard to remember and apply.

In 1977, in order to compile the chapter titled "Soil Geography" in the book, "China's Natural Geography " China's soils were delineated and simplified into three categories, namely great soil zone, soil zone, and soil region. First the entire country was divided into eight great soil zones as follows:

1. South China and south Yunnan latosol, lateritic red earth, and paddy soil zone.

2. Chang Jiang mid and lower reaches yellow brown soil and paddy soil zone.

3. Jiangnan and southwest red earth, yellow earth, and paddy soil zone.

4. Huang He mid and lower reaches brown earth, cinnamon soil, and dark loessal soil zone.

5. Northeast black soil, planosol, and dark brown soil zone.

6. Nei Monggol Plateau chestnut soil, and brown desert soil region.

7. Gansu, Xinjiang arid desert soil and oasis soil zone.

8. Qinghai-Tibet Plateau alpine soil zone.

For the second high level category, or soil zone, the principal basis is major differences in soil improvement and use. For the third category or soil region, the major basis for distinction is soil composition.

"Outline of China's Multiple Natural Zones" written in 1980 used a three category system to divide up the country's soil regions.* First of all, in the first category, the entire country was divided into three major natural regions, namely the eastern monsoon region, the northwestern arid region and the Qinghai-Tibetian Plateau region. In the second category, temperature belts were emphasized. From a foundation of summarization of experiences in the growing of tropical plants, China's tropics was divided into poriferal tropics, mid-tropics, and equatorial tropics. The sub-tropics were also delineated into the south, medium, and north sub-tropics. The temperate zone was divided into warm, medium, and cool temperate zones. Thus, the eastern monsoon region was divided from south to north into a total of nine temerature zones on the basis of latitude. Division by corresponding temperature zones was done for the other regions as well. The third region was called an "area" and divided up on the basis of multiple differences of a combination of topography, soil composition, and moisture conditions, every effort being made to describe rather clearly the characteristics of the "area."

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* Xi Chengfan, Qiu Baojian [8002 1405 0494], Zhang Junmin, and Liu Donglai [0491 2639 0171], 1980: Outline of China's Multiple Natural Zones (Preliminary Draft). Written by the National Agricultural Commission Natural Resources Survey and Agricultural Zoning Commission.

1. Delineation of Soil Zones

There are regular patterns to differentiation and distribution of soils on the land surface of the globe. Individual soil units do not exist independently and in isolation, but are mutually related and structurally form arrangements and make-up of every form and hue, some of them forming soil associations, and some of them forming soil complexes, etc. Under similar conditions, these arrangements and make-ups may repeatedly appear. The co-existence of numerous kinds of soil within a natural unit constitutes the individual characteristics of this region's soil utilization, improvement, and management. When actions taken accord with objective laws, production can go full speed ahead and the ecological balance can be advanced. Conversely, countless conflicts will occur in production, and examples of the lessons of painful experience are too numerous to mention one by one. Consequently, soil zones commensurate with the arrangement and make-up of different soil types have been delineated. In different soil zones, the landscape, vegetation cover, and hydrology must inevitably differ. Identical or similar soil combinations are placed within a soil region, and soil combinations that are strikingly different are delineated as being in a different category of soil region. This helps make the most of the production potential of various different kinds of soil, and helps in the planning and development of production.

Looking at the country as a whole, just what soil characteristics should be included the better to accord with the country's actual soil conditions?

Formerly when soil zoning was done in China, the emphasis was on the soil's bioclimatic characteristics. Such was the case in the zoning of 1958 with the demarcation of five zones (plus demarcation of another single region). The logical rationale for such a method of demarcation is clear, but it contains quite a few conflicts with actual soil conditions in China. Because China's climate has the fine features of rain and heat during the same seasons, but also has temperature zones with which changes in aridity and humidity do not fully coincide, this leads to a series of errors.

In the eastern monsoon region, the temperature zones change with latitude, temperatures declining from south to north, tropics, sub-tropics, warm temperate and temperate zones being from south to north, and stopping at the cool temperate zone latitude. But in China the aridity and humidity situation is one in which the seacoast is humid, and as one moves northwestward, it gradually beomes semi-humid, semi-arid, and extremely arid.

This intermixture of temperature and humidity conditions produces a major impact on the country's soil, vegetation cover, and agriculture and forestry production. North of Chifeng in Hebei Province, for instance, a soil occurs that is both like chestnut soil and also has the characteristics of cinnamon soil, with associated vegetation cover types. As another example, the soils in the southern foothills of the Funiushan and the Nanyang basin are clearly a mixture of southern and northern characteristics. In terms of most recent research data, to say that they possess the characteristics of the relatively dry forest soils of North China mountain regions might be more accurate. Or take southern Xinjiang as an example, where the amount of heat is fine, making it a warm temperate zone where long fiber cotton can be grown, but where there is a shortage of water and where there can be no agriculture without irrigation. Under the aforementioned conditions, it is necessary to consider soil and landscape characteristics together and to conduct concrete analysis in those terms. Therefore, the method of first delineating zones sometimes makes it difficult to outline China's actual soil situations.

Direct use of the method of first demarcating eight great soil zones can resolve some of the aforementioned conflicts. However, yet another situation may arise, namely that this method of dividing regions may place in a subordinate position things that man has yet to bring under control, such as changes in atmospheric temperatures and quantity of heat, thus making difficult a clear explanation of many phenomena. Consequently, in conducting a national soil zoning, a thoroughgoing exploration must be done of the basis for delineating high level categories 2 and 3.

The 1980 mulitple natural zoning that first demarcated three major zones, which were subsequently divided into regions had its desirable qualities. The three major zones outlined the rain and heat occuring in the same season in the eastern monsoon region, and the interplay of seasonal aridity and humidity. In the northwestern arid region, the importance of drought, windblown sand, salinity and alkalinity, and inadequate water in limiting the role of all other natural elements was highlighted. In the southwestern high plateau, the role of high frigidity in limiting productivity was highlighted. Subsequently by demarcating temperature zones for each natural region, the two could be combined to reflect the important differences in China's natural characteristics.

In undertaking national soil zoning, it is necessary, first of all, to make a further painstaking exploration of the problems of divisions within the eastern monsoon region, because eastern China straddles the 50th parallel, is the country's most densely populated area, its most intensively farmed area, and the area in which agricultural production has been going on for the longest period of time. Looked at in terms of soil properties and the agricultural production situation, it may be clearly divided into two parts: The region to the north and south of the Chang Jiang and the farflung area to the south of the Chang Jiang, which belongs to a hot and humid realm of high temperatures and much rain, has soils with varying degrees of calorization, most of which show reactions ranging from mildly acidic to strongly acidic, and which have fairly clear accumulations of free iron and aluminum. Their natural vegetation cover is that of tropical rainforests, monsoon rainforests, and sub-tropical broadleaf evergreen forests. Mostly paddy rice is planted in an annual two crop system of rice and wheat, or in a between two and three crop system. North of the Chang Jiang, the area is largely a semi-humid to semi-arid one where vegetation cover is broad leaf deciduous forests or mixed forests of needle and broad leaf trees, with xerophytic forests, forests, shrubs, and grasses in the west. The soils are predominantly siallitic weathered ones, and many soils have a high limestone content with accumulations of salts being visible in low-lying areas. Crops are predominantly dryland ones, principally corn and wheat, one crop a year or three crops every 2 years being grown. In the far south two crops a year may be seen, thereby reflecting major differences in some soils.

The Qingling Mountains and the Huai He are a major dividing line between natural regions in China, but formerly their soil zoning was largely placed in a subordinate position. Only in this zoning was the eastern monsoon region of the country divided into two major zones to the north and south of this line, the soils to the south of it having a general character of noticeable iron and aluminum content and called the allite soil (or ferro-allite soil) region, and the soils to the north of it comprising the siallitic soil region.

By the siallitic soil region system is meant the features common to the soils from the warm temperate zone to the temperate zone of North China and most of the Northeast. Under semi-humid and semi-arid conditions, most soils are in a siallitic weathered stage with only a weak free iron being visible, and not yet being in the allite stage. This is greatly different from the soils of the south where varying degrees of allite weathered soils have appeared. Under semi-arid conditions, the accumulation of limestone in soils is apparent, with only partial leaching of the limestone, and calcium layer illuviation. Naturally, in a situation of organic accumulation in soils, differences will be very striking. Such changes require further division into another sub-division.

Yet another dividing line for China's soils and landscape are differences inside and outside the Great Wall. The area along the Great Wall in North China may be roughly divided into two major regions. The region south of the Great Wall has cinnamon soil types characteristic of semi-arid forests. The region north of the Great Wall has chestnut soil types characteristic of arid grasslands. North of the Great Wall one crop a year is grown, the crops being mostly cold tolerant and drought tolerant spring wheat, potatoes, and oats. South of the Great Wall three crops every 2 years are grown, consisting mostly of winter wheat, cotton, and miscellaneous grains other than wheat and rice.

Thus, major differences in the soil and natural landscape are reflected in differences in farm and livestock industry production and the crop system. In general, the Great Wall is the dividing line between the siallitic soil region of the eastern monsoon region and the arid soil area of the northwest.

This dividing line extends westward. In the western part of the northeast and parts of the Nei Mongol high plateau, the black earth and chernozem soil beneath the savannah and grassy plateaus of the northeast region appear, which together with the chestnut soil and brown pedocal soil [brown desert soil] formed by the western grassy plateau mark the dividing line between the two great siallitic and arid soil zones. In the traditional form of zoning, this dividing line continued along the southern extension of the Greater Xing'an Mountain Range. However, there is chernozem distributed on both the eastern and western sides of this line. In dividing soil zones, it is best to follow a demarcation line between chernozem and dark chestnut soils, and chestnut and light chestnut soils. This demarcation line is generally identical with the 250 mm per year rainfall line. Such a demarcation has genuine production significance. In both the quantity of hay they produce and the number of livestock they can maintain, the dark chestnuts soil of the west are noticeably higher; without irrigation facilities it is still possible to engage in dryland farming here though the seasonality of drought is pronounced. However, to the west of this line the chestnut soil and brown pedocal soil regions are part of the arid grassy plateau, which are notably lower in their output of hay and the number of livestock they can support. Moreover, only under warping conditions can grain production be undertaken. This is the reason why there are numerous irrigated areas in the river valleys of the western plateau. Yinchuan and Houtao in the Huang He diversion irrigated area, irrigation through diversion of water through small ditches in the foothills of the Daqing Mountains, and irrigation zones made by diversion of melted snow from the high mountains all belong to these irrigated areas. Consequently, on the basis of the aforestated soil characteristics and the natural landscape features, the northwest arid soil region and the eastern siallitic soil have been divided into two major soil regions.

As far as the question of why high mountain soils should be divided is concerned, we felt that delineation of the first category should be done on the basis of differences in major soil characteristics. The Qinghai-Tibet Plateau is a large, high plateau at a low latitude and a high elevation above sea level within China. Its soils and its landscape features are greatly different from those of surrounding regions at lower altitudes above sea level.

Since the late Tertiary Period and throughout the Quaternary Period, the surface of the high plateau has steadily risen, and this has produced extremely great effects on natural conditions on the plateau and on its neighboring areas, making it a unique natural region in China, the soils and other natural conditions of which are very different than those of regions at lower latitudes and lower elevations above sea level.

Since the surface of the plateau is mostly around 4,000 meters above sea level or higher, the mountain systems on it are at even higher elevations. At different elevations above sea level (3,700 meters, 4,300 meters, and 5,200 meters) on the high plateau, soil and farming and livestock raising conditions have rather distinctive characteristics. The usual alpine conceptions do not entirely apply. This is because most isolated mountain peaks at such high elevations are on the ice and snow line, while on the Qinghai-Tibet Plateau, alpine grasslands, semi-alpine grasslands, and grasslands exist. Upper limits for the growing of crops may be above 4,300 meters. On the top of the plateau or in ravines fairly high above sea level grow highland barley, wheat or even fruit trees, and vegetables. These distinctive characteristics are closely interrelated to soil properties.

As a result of the uplifting of the Qinghai-Tibet Plateau and the effects associatied with it, new structural movement is extremely developed resulting in the formation of many large and high mountain systems related to the Qinghai-Tibet high plateau, which cause China to be characterized by many mountains. The area of mountains and hills is more than 65 percent of the total.

In the high mountain systems, vertical differentiation of soils and vegetation cover are apparent. Below the snow line are found cold desert soil, alpine meadow soil and semi-alpine meadow soil. The surface of the high plateau is broad and under overall high and cold conditions, and as a result of differences in aridity and humidity, differences occur in the horizontal plane of the high plateau. Differences in soil patterns resulting from the combination of vertical and horizontal differences produce special soil combinations.

This is the reason for including the alpine soils distributed on the Qinghai-Tibet high plateau as a part of the first great soil category. However, futher analysis is still required for specific delineation. For example, the red earth and yellow earth distributed at a low elevation above sea level on the south side of the Qinghai-Tibet Plateau, and the soil verticle spectrum on it, differ fairly greatly from the soils on the surface of the high plateau. For this reason, in zoning soil, they are classed in a great soil zone with the red earth of the Yunnan high plateau. The elevation above sea level of the Tsaidam Basin in the northwestern part of the high plateau is also very high; however, properties of its soils are akin to those of the northwestern arid soil area, so they are classed in the northwest arid soil zone. Thus after separating out the red and yellow earths at low elevations in the south and the Tsaidam Basin in the north, it is the high and cold features of Qinghai-Tibet high plateau soil that are noticeable. These soils are characterized as having a high underlayment and fierce sunshine, and though their elevation above sea level is high, farming and livestock raising can still be carried out at low latitudes and below high elevations. Therefore, among first category soil regions, neither the system of division into eight major regions nor the system of demarcation by zone was used, but rather three high level categories were divided into four great soil regions as follows:

(1) Allitic Great Soil Region (or Ferro-allitic Great Soil Region).

(2) Siallitic Great Soil Region

(3) Arid Great Soil Region

(4) Alpine Great Soil Region

2. Delineation of Soil Zones

China is situated in the eastern part of the Eurasian continent, and extends from the Zengmu reef in the Nansha Archipelago [Spratly Islands] in the south to the Mo He in Heilongjiang Province in the north covering an area of more than 50 degrees of latitude.

In the course of evolution over a long period of time, diverse soils and natural landscapes have been formed that are suited to the growing of many kinds of plants and crops. Because of differences in moisture conditions and rises and falls in the topography of the temperate zone, the soils that have been formed differ widely. Therefore, delineation of soil zones should occupy a proper position in soil zoning.

The foregoing discussed the overemphasis on soil zonality, or what has been called bioclimatic zonality in former soil zoning, with may phenomena that could not be readily included. Nevertheless, one cannot completely ignore the delineation of soil zones on this account. Consequently, soil zones are a part of the secondary category zones. The basis for their delineation is principally the compatability of temperature zones with soil and vegetation cover. Other influences on soil characteristics and combinations of factors are distinguished in corresponding scales.

Differences in soil properties corresponding to temperature zones exhibit laws of change that generally parallel latitude in the eastern monsoon region, moving from south to north. In the northwestern arid soil region, changes occur somewhat on a slant, largely showing a differentiation from the southeast to the northwest. Soil evolution on the Qinghai-Tibet Plateau is also similar to that of the northwest arid region, aridity gradually increasing from the southest to the northwest. Therefore, in the demarcation of China's soils, three alignments appear.

The eastern monsoon region was formerly divided into tropical, semi-tropical, warm temperate, temperate, and cold temperate zones. Most recently, acting on the basis of a summarization of the growing of rubber and other tropical ecomonic forest woods in China's southern semi-tropics and tropics, taken together with actual differentiations in temperature zones, the tropics has been divided into poriferal tropics, medium tropics, and equatorial tropics zones. Their distinctions are that in the southern semi-tropical zone, only under partial microclimatic conditions is it possible to grow rubber. In the zone ferro-allite soils of the poriferal tropic zone in the northern part of Hainan Island and on the Leizhou Peninsula, rubber can be grown; it is, however, subject to cold damage, and its speed of growth is not as good as in southern Hainan Island. Therefore, in zoning soils, the latosol soil of the former tropic zone has to be divided into fringe tropic zone latosol, medium tropic zone latosol, and equatorial zone soil. The latter is principally the phospho-calcic soil of the various islands of the South China Sea. These have been temporarily lumped into the latosol soil zone for lack of complete data. Each soil zone includes various individual soil belts.

(1) Allitic Great Soil Region. Divided into three soil belts from south to north.

1. Latosol Soil Zone. Includes the area south of the Nan Range, coastal Fujian, and most of northern and central Taiwan Province. Distributed largely as paddy soil, two to three crops may be grown. Longans and lichees are produced on it, as well as bananas in many places.

2. Red earth and yellow earth zone. This is the widest zone of medium and semi-tropical soil in the country including the area of low mountains and hills between Jiangnan and the Nan Range as well as the Sichuan Basin and the Guizhou Plateau. The northern part of the Yunnan Plain is also a part of it. It is a prolific producer of paddy rice and bamboo. One to two crops of paddy rice may be produced annually. Many places also produce citrus fruits, tea, and tea oil.

3. Yellow-brown earth zone. Mostly along the mid and lower reaches of the Chang Jiang and in the Han Shui basin. It is a weakly weathered allitic soil. It grows mostly paddy rice and wheat in a two crop system. In some places, where microclimatic conditions permit, citrus and tea may be grown.

(2) Siallitic Great Soil Region. Divided into three zones from south to north.

1. Brown earth, cinnamon soil and dark loessal soil zone. This is an eastern warm temperate zone soil that is also fairly widespread in China. It includes most of North China and the loess highlands, a semi-moist to semi-arid area. Prolific producer of cotton, wheat, barley and naked barley, and miscellaneous grains other than wheat and rice, two crops per year or three crops every 2 years being possible. It is a major producing area for juicy fruits and dry fruits [e.g. nuts]. In the western part of the loess highlands, soil erosion is fairly serious, limiting development of agricultural production.

2. Dark brown earth, phaiozem, and chernozem zone. These are the principal soils of the eastern part of China's temperate zone. Under semi-moist or semi-arid conditions, the four seasons are distinct. Winters are exceedingly cold, but summers are warm enough to satisfy growth of crops that like coolness. A single crop a year can be grown, and crops include spring wheat potatoes, and sugarbeets, which grow well. Corn and paddy rice may also be grown, but they are prone to cold damage.

3. Podzolic soil zone. Found in a narrow area of China, only at the northern end of the Greater Xing'an Range. Mostly mixed growth of needle and broad leaf forest trees such as larch, white birch, and Pinus sylvestris.

(3) Arid great soil region. Divided into three zones.

1. The kastanozem, brown pedocal, and sierozem zone. An extension of the aforementioned dark brown earth, phaiozem, and chernozem zone of northeastern China, which becomes the kastanozem of the grasslands and the brown pedocal zone of the semi-desert grasslands where short artemesic plants grow, and which is interconnected with the sierozem soil of the semi-desert grasslands at the southern end. The livestock raising industry predominates in these arid grasslands, largely cattle and sheep in the east and goats and camels in the west.

2. Gray-brown desert soil zone. Dovetails with the brown pedocal in the east and extends into the mid-temperate zone desert region with much aeolian arenosol. In the east lies the Tenggeli Desert, and in the west lies the Badanjilin Desert. In the Dzungarian Basin is the Guerbantonggute Desert. There are many irrigated areas below the Tian Shan and the Aerqin Shan.

3. Brown desert soil zone. This centers around the southern part of Xinjiang Province, which is the drought center of the Eurasian continent. From the Hexi Corridor in Gansu westward, it becomes increasingly arid until the center of the Tarim Basin in which lies the vast Takla Makan Desert. Annual rainfall is only 20 to 50 millimeters. As a result of irrigation and many oases made possible by melted snow from the Tian Shan and the Kunlun Shan, long fiber cotton and winter wheat is grown here.

(4) Alpine Great Soil Region. This means mostly the soil on the Qinghai-Tibet Plateau at an altitude above 4,000 meters. Since the plain extends rather widely, it has been divided into five soil zones.

1. Sub-alpine meadow soil zone. Located in the relatively moist southeastern part of Tibet where conditions are fairly good, making it a farming and livestock raising area.

2. Sub-alpine steppe soil zone. Distributed mostly on the north side of the Yarlong Zangbo Valley, which is the main farming and livestock raising region of the Tibetan Plateau.

3. Alpine meadow soil zone. Located mostly around the headwaters of the Yalong, Jinsha, and Lancang rivers, where the terrain is uplifted and the livestock industry predominates.

4. Alpine steppe soil zone. Located mostly on the northern part of the Tibetan Plateau where the terrain is uplifted and where there are many salt lakes. Some livestock raising.

5. Alpine desert soil zone. Connected in the north to the Tsaidam Basin and in the west to the southern Xinjiang Desert. Part of alpine desert steppe.

III. Delineation of Soil Zones

Soil zones are an important element of national soil zoning. They reflect the homogenity of soil make-up and related conditions within zones as well as the generalness of their use and improvement characteristics.

However, such homogenity or similarity of soil combinations applies to broad areas. When zoning soils in provinces or counties, it is still necessary to continue to make fine distinctions. Take the Huang-Huai Plain as an example. This is a self-contained soil zone unit within the brown earth and cinnamon soil zone. But within the zone, differentiations of soils are still very obvious. Cinnamon soil is found only in alluvial fans at the foot of mountains and in places on the plain where the ground water table is fairly deep. The broad plain may continue to be divided into the North China Plain north of the Huang He, and the Huangfan Plain to the south of the Huang He where fluvo-aquic and saline-alkaline soils predominate. At the southernmost end of the Huang-Huai Plain, sajong black soils predominate.

Take the North China Plain as another example. It may be finely divided into piedmont alluvial fan fluvo-aquic brown soil, alluvial plain fluvo-aquic soil, saline-alkaline soil, and saline coastal soil. These subdivisions below soil region are of reference value for soil improvement and use.

In undertaking a zoning of national soil regions, the basic characteristics of broad soil regions must be delineated to make individual units in soil regions distinct. Soil combinations with identical or similar characteristics should be grouped together, and those with obviously different characteristics should be separated out. Illustrative examples are given as follows:

Example 1. Traditionally when discussing the loess highlands, the region of Shanxi, Shaanxi, and Gansu to the west of the Taihang Mountains is collectively called the loess highlands. Thus, because the extent of the loess highlands is overly large, when discussing soil improvement and water and soil conservation in the loess highlands, endless debate results from the object of discussion not being the same. One must know that the Yan Shan rise in the north, and that the Taihang and Luliang mountain system than extends to the south is a mountain area of soil and rock. Though there are also loess accumulations in the ravines and valleys of rocky mountain lands here, its characteristics differ rather greatly from the loess mesas, ridges and hills to the west of the Luliang Mountains. Therefore, if the loess highlands are delimited in a small sense, only the region where the less soil layer is deep (averaging between 30 and 280 meters), erosion is serious, and which is cut up into rounded hills, loess ridges and loess mesas is meant. This is a region where vegetation cover is sparse, consisting mostly of grasses, and is called the loess highland loessal soil and dark loessal soil area. The soil and rocky mountain area to the east, on the other hand, is called the North China mountainland brown soil, skeletal cinnamon soil, mountain brown earth zone, which is the principal area for the growing of fresh and dry fruits such as Chinese chestnuts, walnuts, apricots, and persimmons. Here the valleys and basins are major agricultural areas. But the large river valley plains form yet another soil region.

In the two aforementioned soil regions, soil make-up is different, and distinctions in their use and improvement are also fairly great.

Large river valley plains such as the Fen He and Wei He river valley plains as well as the various forms of land on their banks such as the first, second, and third grade mesas, have been substantially uneroded or only slightly eroded. Agricultural production there is consistent, and it is a farming area with consistently high yields. It differs greatly from the loessland highlands, which have been badly eroded. Thus it requires delineation as a soil area called the Fen and Wei valley fluvo-aquic soil, cumulative cinnamon and cinnamon soil region.

Therefore, the soil region that had formerly been lumped together under the term "loess highlands," has now been defined as the North China mountainland, the loess highlands, and the valleys of the Fen and Wei. In this way soil region concepts are clarified, so that discussion about the direction of improvement and use of different soil regions will have a clear orientation.

Example 2: In the division of soil zones in the Sichuan Basin, should the Sichuan Basin be maintained as an entity when zoning the soil in such a large basin? Or should it be divided up in a suitable way while retaining its general outlines. This merits exploration.

We have divided lowland areas of the Sichuan Basin into the Chengdu Plain paddy soil region and the Sichuan Basin purplish soil and paddy soil regions. As to just how to distinguish the mountain regions of eastern Sichuan and the mountains surrounding the Sichuan Basin is also a question meriting deep study. The Huayong and Jinyun mountainlands of eastern Sichuan have mostly yellow earth, but their valleys also contain much purplish soil distributed in high hills, which is very much the same as that of the purplish soil hill area of eastern Sichuan, and which should be made a sub-category of that region. However, a comparison of the mountains surrounding Sichuan with the Guizhou Plateau shows their soil properties and landscape characteristics to be virtually identical. Thus, the mountains surrounding Sichuan and the Guizhou Plateau can be grouped together as a single soil region in which yellow earth, rendzina, and paddy soil predominate. Since soil properties of the Kunming Plateau and the Guizhou Plateau distinctly differ, they cannot be lumped together as the Yunnan-Guizhou Plateau, but should be divided into two soil regions.

Example 3. The vast expanse of mountains and hills to the south of the Chang Jiang form a major part of China's semi-tropics. They cover a vast area in which natural conditions are very good, making them major areas for the development of agriculture and forestry. Formerly it was customary to refer to them collectively as the Jiangnan hills, when, in fact, mountainlands account for a substantial area. The make-up of the soil of the rolling hill regions and the folded mountains, as well as their use and improvements differ fairly greatly. Consequently, this vast region has first been broken up into the Jiangnan hill red earth and paddy soil region, which comprises mostly Hunan and Jiangxi, but also extends eastward into the Red Basin in Qu County, Jinhua Prefecture, in Zhejiang Province. In landforms, mother material, and soil make-up, this Red Basin greatly resembles the adjacent region, so it is classed as a single soil region. Additionally identified are the Jiangnan mountainland red earth, yellow earth, and paddy soil regions including the north slope of the Nan Range, the mountainlands of Fujian and Shejiang, and the mountainlands of southern Anhui and northern Jiangxi. The hill soil regions south of the Chang Jiang are at a low elevation above sea level and the slope of the terrain is fairly gentle. They are a major farming area requiring attention to improvement of the red earth. The mountainlands south of the Chang Jiang are at a fairly high elevation, most mountains below 1,000 meters. They are characterized by extremely well developed interspersed large and small mountain basins, each of the basins traversed by streams, with mostly wetlands in the middle of the basins and terraces climbing the sides of streams. The soil is largely red earth. High hills and low mountains are mostly red earth and yellow earth, largely covered with common broad leaf forests. These basins are major producing areas for bamboo, wood, and economic trees such as tea oil, tung oil, and citrus fruit. In ravines and along mountain slopes of varying heights where water is adequate, one finds terraced fields where rice is grown. They serve as fine bases for multiple kinds of farming. Of course, provincial and county level zoning has not been carefully done.

Example 4. In China'a northwestern arid region, mostly various kinds of desert soils are found. The arid region has several large basins including the Tarim and the Dzungarian, plus the Hexi Corridor. These basins and their surrouding mountainlands form a self-contained natural system. Their soils and other features have yet to be carefully delineated. In the center of the basins are vast arid deserts such as the Takla Makan Desert and the salt lakes to the east of it in southern Xinjiang. Mountains surround the basins. Take the Tian Shan, for example. It has brown pedocal soil, chestnut soil, and even black desert soil, which is distributed in a vertical spectrum as the mountains rise. At the forest line, one sees gray cinnamon forest soil. The melting of ice and snow in the high mountains forms the source of irrigation water for oases in the basins. Thus, three distinct soil areas are formed: (1) the Tarim Basin, Lop Nor brown desert soil and aeolian arenosol region, (2) the Tarim Basin fringe irrigated cumulative soil, brown desert soil, and saline soil region; and the (3) Tian Shan gray-brown soil and semi-alpine meadow soil area.

The foregoing examples demonstrate the existence of broad regional soil region concepts in the zoning of soils. Insofar as possible, soils are grouped together in the same soil region on the basis of their similarities in make-up, and thus the soil make-up of one soil region and another is clearly differentiated making for easy identification. All graduations of fairly small distinctions have been identified in the scale for different regions provided below. In national terms, soil regions should not be divided up too finely or into too many sub-regions. For example the Altai Shan gray forest soil, semi-alpine meadow soil region is a soil region formed from the combination of several discontinuous soil tracts containing soil with similar properties. The Tarim Basin fringe irrigated cumulative soil, brown desert soil, and saline soil region is a similar situation. In formulating agricultural production plans, measures can be adopted on the basis of differences and similarities between one soil region and another.

9432
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ZHOU ZIJIAN VISITS, REASSURES COMMUNE MEMBER

OW041351 Hefei Anhui Provincial Service in Mandarin 1100 GMT 3 Aug 82

[Newsletter by station correspondent (Ye Shihe): "The Governor Makes Us Feel Reassured"]

[Excerpts] Zhou Zijian, acting first secretary of the Anhui Provincial CCP Committee and governor of Anhui, inspected Jingde County in mid-June. After a briefing by county and commune leaders, he paid a visit to (Lu Jinsheng), a commune member of the (Fengxi) No 4 production team of (Niaoshou) commune, despite the rain. He encouraged (Lu Jinsheng) to vigorously develop production and get rich through work as quickly as possible.

(Lu Jinsheng's) family consists of six members, three of whom are able-bodied workers. (Lu Jinsheng) himself is a hardworking and capable man. He has been a production team leader for more than 20 years. He is good at farming and diversified undertakings. In addition to 7.5 mu of land which the family farms under contract, the family also grows ramie and keeps sows and cattle. The family's annual income from farming and sideline production may go as high as 3,500 yuan, averaging 600 yuan per person.

Seeing the fine ramie crop at (Lu Jinsheng's) home, Comrade Zhou Zijian said happily: Your ramie is very good.

(Lu Jinsheng) said what he had wanted to say for a long time: Every family here grows ramie. It is a major sideline production and source of income. However, the commune members are afraid that the policy might change and that they could be stuck with their unsold ramie.

Comrade Zhou Zijang said: The state is going to set up a ramie mill. When that happens, there will not be enough ramie to meet demands.

(Lu Jinsheng) said: That is good. We are reassured.

CSO: 4007/537

BRIEFS

TEA PROCUREMENT--By 10 July, Anhui had procured 616,000 dan of tea from tea growers, thus overfulfilling this year's state procurement plan by 4.5 percent. The 1982 procurement is 95,000 dan more than the 1981 procurement. [OW060130 Hefei Anhui Provincial Service in Mandarin 1100 GMT 16 Jul 82 OW]

ANQING PREFECTURE EARLY RICE--Anhui's Anqing Prefecture has reaped a bumper harvest from its 2.53 million mu of early rice fields, with per-mu yield reaching 750 jin and total yield 1.9 billion jin. [OW140351 Hefei Anhui Provincial Service in Mandarin 1100 GMT 13 Aug 82 OW]

GUZHEN COUNTY AGRICULTURAL PRODUCTION--Guzhen County in Anhui has increased its total annual grain output from 237 million jin to 554 million jin in 3 years since the convening of the 3d Plenary Session of the 11th Party Central Committee. The total income derived from agricultural production achieved an annual increase of 22 percent in both 1979 and 1980 and reached 183 million yuan in 1981, more than double that of 1980. The county's total wheat output has reached 285 million jin, 35 percent more than last year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 12 Aug 82 OW]

ECONOMIC DEVELOPMENT--According to a report submitted by Anhui's vice governor Guo Qiziang on 17 July 1982 to the 14th meeting of the Standing Committee of the Fifth Anhui Provincial People's Congress, the total output of summer grain is expected to reach 10.26 billion jin and that of rapeseed is expected to reach 17.46 million dan in the province. The total industrial output value for the first 6 months of 1982 has reached 6.95 billion yuan in Anhui, fulfilling 49.6 percent of the annual target assigned by the state. By the end of June 1982, 1,397 million jin of summer grain, 400,000 dan of spring tea and 56,000 dan of spring silk cocoons had been procured by the state. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 20 Jul 82 OW]

RICE HARVEST--Despite incessant rains 9-24 July, which brought 300 to 400 mm of water to the rice fields, Anhui Province had, by 6 August, harvested 10 million mu of early rice, or 90 percent of the total to be harvested, while planting 8 million mu of late rice. [OW100505 Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Aug 82 OW]

CSO: 4007/537

PLANNED PARENTHOOD STRESSED UNDER RESPONSIBILITY SYSTEMS

Beujing RENKOU YANJIU [POPULATION RESEARCH] in Chinese No 3, 1982 pp 30-32

[Article by Xiao Sanhua [5618 0005 5478] of the Population Institute of the Guangdong Province Academy of Social Sciences: "How Planned Parenthood Work Should be Carried out After Implementation of Production Responsibility Systems in the Rural Areas"]

[Text] After the Third Plenum of the 11th Party Central Committee, rural production systems were transferred to lower levels and a variety of production responsibility systems were implemented in rural areas, breaking new paths for resolving a situation in which rural production had become bogged down. But after the systems were transferred to a lower level, a rise in the natural population increase appeared in rural areas. How can this new problem which has arisen under new circumstances be resolved? This is the subject of this article.

I. Responsibility systems, such as occupational contracts or household production contracts to labor, which link compensation to production, are an important part of the distrubiton by work system. This is particularly evident in improving the lot of poor and backward units.

However, things have a tendency to develop in complex and interrelated ways. After the responsibility system for household contracts was shifted to labor, the phenomenon of no one being in charge of planned parenthood appeared in rural areas; this produced an anarchic attitude regarding childbearing and the birth rate started to rise again. After the system was changed, the work point compensation system below the production brigade level was completely abolished. The past regulation of discounting the labor work points earned by a couple with too many children was hard to enforce. In some places, when responsibility for land was allocated under the system of contracting to the household, it was stipulated that those with too many children should receive less land for which they were responsible, but in places with little population and a lot of land there was no problem about giving less land. In some places where incomes were high, the household concerned didn't even mind the levying of fines for excess children.

Such problems appear to be obstacles which were created after the implementation of the responsibility system, but actually this outlook is a little one-sided.

Marxism holds that population production is in the sphere of social production and is restricted by the methods of social production. The level of a society's economic development based on a certain level of productive forces determines the state and scale of the population growth of the society. At present, China's rural economy still retains animals as motive power; with a level of agricultural production forces consisting largely of hand labor, in which machinery has not yet replaced human labor for cultivation, the peasant family is the production unit and the amount of economic income is determined by the strength of the labor force. In addition, due to the relatively low standard of living, the cost of raising children is low, and since the technical demands of agriculture are not high, expenses for educating children are not great. This extremely low level of agricultural production is reflected in childbearing, which is high. As a result, the production responsibility systems in the rural areas, after it is implemented, cannot be expected to play any determining role in changing the birth rate.

However, the view of childbearing which proceeds from the individual interests of the small rural economic unit can, through socialist propaganda and education, administrative measures, economic rewards and punishment, under the premise of the primacy of state and collective interests, through planned parenthood, be changed so as to control the reckless growth of population. In the past 10 and more years, planned parenthood work has made enormous achievements sufficient to prove the point. Since the seventies, when we began to stress planned parenthood, the natural population growth rate for the entire country dropped from 12.72 per thousand in 1976 to 11.7 per thousand in 1979, which is lower than the 17 per thousand level for natural population growth worldwide for the same period. Rural natural population growth rate for the entire nation dropped from 24.29 per thousand in 1971 to 12 per thousand in 1979. The planned parenthood rate went from 10 percent in 1971 to 70 percent in 1979. The birth rate of 33.59 per thousand for the entire country in 1970 dropped to 17.90 per thousand in 1979, or 56 million fewer births nationwide, which is equal to giving birth to fewer people than the entire population of Guangdong Province. Thus, transferring agricultural production systems to lower levels and doing a good job of rural planned parenthood is entirely possible. The crux of the problem which appeared earlier was that our commune and brigade cadres and masses relaxed planned parenthood work. For a time right after a change in a system on policy we should not be surprised at some ideological problems in society. If only we strengthen study, raise understanding, establish policies well, do a good job of propaganda education among the masses, strengthen the ranks and lead the masses, planned parenthood work can be done well.

II. How should we carry out planned parenthood work in this new situation? Practice in many areas proves that it is necessary first of all to resolve the key problems. The Central Committee said: Rural areas generally should advocate one child, stop at two and not have a third, and this is completely correct. It conforms both to national circumstances and the will of the people, and it should be firmly carried out. Whether from theory or from method, "not having a third child" is much easier than having one child and stopping at two. Today (i.e., 1981) the excess births in many provinces nationwide is 30 percent or more (Yunnan, 30 percent; Hebei, 30 percent;

Guangdong last year 30 percent). The nationwide multiple birth rate is still 20 percent. If we stop multiple births and other things remain the same, the natural population growth rate may drop to below 8 per thousand. In the past some people said: "I'm a citizen of China. Other people have multiple births, why can't I have one more?" Some people were clearly ready to have only one, but because they were influenced by others having more children, they gave up the idea of having only one, so the influence of this thinking was very great. Not having a third child is a matter which planned parenthood work should address first of all, for this is a strategic measure.

Next, it is necessary to clearly stipulate the scope of the"stop at two children" policy so that "not having a third" will not go so far as to produce the misunderstanding of whether or not one can have a second child. In the spirit of the directives of the CCP Central Committee and the State Council, for those rural areas where the masses demand a second child because they are really having problems, after investigation and the implementation of planning arrangements, contracts should be signed with the women of childbearing age. In this way the limitations of the "stop at two children" policy will be specific and clear, and this will establish a firm foundation for stressing "stop at two children" work.

III. Marxism holds that the production of material goods must adapt to the production of mankind itself. Resolving our population problem requires that we stress the two kinds of production together. After the implementation of responsibility systems which link compensation to production, the advanced units in planned parenthood in Pingshi Commune in Lechang County, Nankou Commune in Nei County and Gaoyao County (all in Guangdong) established models of how to improve planned parenthood work. Their method was to make both agricultural production and planned parenthood part of the responsibility system so that the method of "stressing both kinds of production together" was further well grounded. Specifically, the "stress food, money and people together" program should be implemented. When the work group or household giving guarantees signs a "dual guarantee" contract with the production brigade, it guarantees agricultural quotas and planned parenthood quotas together. A person's parenthood quota is set by the work group and carried out by the individual. Cadres, masses and individuals all know who should have a child and who should not have another child, and this plays a supervisory and restrictive role. The work group must certify to the production brigade that it carried out the parenthood norms and that it did not have any excess births outside of the planning.

The "dual guarantee" contract also stipulates the joint checking and fixing of rewards and punishment. If the production and parenthood quotas are both met, then the entire bonus is received: 70 percent for agricultural production and 30 percent for planned parenthood. If the agricultural production mission is completed but planned parenthood is not, then only 70 percent of the bonus is given. At the same time, the production brigade stipulates that if there are excess births outside of the plan, then an excess birth ration will be deducted from the total grain ration of the commune members of the entire group, and this further links planned parenthood to the personal interests of each commune member. The commune and the brigade also adopt the deduction-by-level method with regard to the brigade and the production brigade respectively; one level deducts from the next lower so that the levels are closely linked. This causes people to be concerned about each other and the cadres and masses manage in tandem so that the "dual guarantee" system is well established. The commune, brigade, production brigade and work group (household) all give guarantees to the level above them regarding a double heavy mission. The two quotas are assigned together at the beginning of the year, checked at midyear together and reported together; at the end of the year they are summarized together and evaluated together. This makes planned parenthood work regularized and systematized.

In the past, planned parenthood work was always of a crisis nature: during the high tide activity was furious, but as soon as the high tide passed it cooled off, so the results fell short. Because it implemented the "dual guarantee" and as a result of evident achievements in the "stress food, money and people together" program, Nankou Commune in Mei County was declared an advanced county unit. In 1980 the birth rate was 15.1 per thousand, the natural population growth was 9.2 per thousand, the multiple birth rate was 2.1 percent, and there were 11 brigades which did not have third births, so the population was better controlled. After Pingshi Commune implemented the "dual guarantee" contract system, there were great developments in agriculture, forestry, animal husbandry and sideline production, and superior results in planned parenthood work, too. At the end of last year the natural population growth rate was 3.66 per thousand, the planned birth rate was 84.9 percent, and the late marriage rate reached 96.3 percent. In the first quarter of this year the single-child birth rate increased from last year's 77.4 percent to 94.4 percent, and 10 of the 16 brigades in the entire commune achieved 100 percent in the single-child birth rate. Of the 150 production brigades in the commune, 129 did not have a third birth.

To summarize, after implementing household guarantees or some other responsibility system which links compensation to production in rural areas, the following are the main methods of doing a good job of planned parenthood work:

1. Leadership thinking and understanding should be unified, and party members and cadres should take the lead by setting an example. For example, in Huilong Commune in Gaoyao County, the cadres advocated that each couple have only one child, but they ran into heavy resistance so it was very hard to launch the campaign. After the commune cadres launched a campaign to study relevant population theory, the relationship between population and the four modernizations and the Open Letter from the Central Committee, they raised their understanding, unified their thinking and resolutely took the lead in having only one child, and this played a very good role in planned parenthood work. Because the commune cadres all received single-child certificates, one level spurred on another, the leadership spurred on the masses and very quickly this promoted a high tide of having only one child throughout the commune. There is a saying: "The village looks to the village, the household looks to the household, the commune members look to the cadres and the party members look to the party branch." It is necessary to emphasize that "the cadres should do first what is demanded of the masses; and the cadres

"within the party should do first what is demanded of the cadres." The Central Committee's Open Letter demands that party and league members and cadres take the lead by setting an example.

2. Propaganda and education work should be launched vigorously and a careful job of ideological work should be carried out. China has a several thousand year history of feudal society, and feudal influences on marriage and childbirth are very profound in the rural areas; the feudal ideas that "the more children, the more happiness" and "boys are honored, girls are inferior" are deeply rooted in the rural areas. Advocating having only one child can meet stiff resistance. Having only one child is an ideological revolution in transforming social customs. Gaoyao County's ideological education work adopted the unity of theory and practice; using materials on hand by settling balances helped the masses easily to comprehend the principles and get a real life education with very good results. The cadres guided the masses to calculate three accounts: the disadvantages of the increased burden on the state, the collective and the family of reckless population growth, the advantages of planned population growth; and the economics of a couple having only one child; they showed that keeping the population under 1.2 billion is related to the future of the peoples of the country, the happiness of future generations and the integration of long-range interests and immediate interest, state interests and individual interests. Through account balancing education the county's single-child rate rose from 7.8 percent in 1979 to 47.6 percent last year; 168 units in the county reached a single-child rate of 100 percent.

3. Do a good job regarding policy and implement bonuses and fines. There are seven relevant stipulations in the Guangdong Planned Parenthood Regulations which provide for bonuses for those who have only one child. To the extent possible, brigade and production brigades should make supplementary stipulations which provide for a variety of consideration so that visible immediate benefits will be received. This not only broadens the impace of single births, but also further establishes a solid foundation for the single-child rate. On the other hand, there are economic penalties (work points cannot be deducted, so fines are used) for multiple births or unplanned births to be used for education in implementing the policy of bonsues and fines, and this plays a great role in stopping additional births. For example, Pingshi Commune adopted economic measures, implemented a bonus and fine policy, carried out a mass pledge and implemented measures to increase bonuses and fines to make the policy work. From January to April of this year there were 232 instances of the four procedures (including 60 induced abortions, 35 ligations of men and women and 142 ring emplacements), so that the rate of single births rose from last year's low, 77.4 percent, to 94.9 percent.

4. A staunch and stable planned parenthood work corps should be established. Since responsibility systems linking compensation to production and "dual guarantee" contracts have been implemented, advanced units have turned around the passive situation of the past and have established a specialized corps responsible for day-to-day work. Brigades and production brigades have also alerted women leaders and barefoot doctors that when, in the process of carrying out routine examinations, a pregnancy which is outside of the plan is

discovered, they are to report it immediately and take precautionary measures promptly. Occupational brigades have duties and rights to provide extra allowances. They should keep their minds on their work, have clearcut responsibilities and play an important role.

5. The down-to-earth work of birth control measures should becarried out after a certificate is secured. The age of parents of a single child securing a certificate is usually between 25 and 30. After securing their certificate, to guarantee that they do not have any excess births, long-term measures should be taken. Ordinarily, ideological education should continue along with regular examinations so that there are no excess births.

In summary, the fact that the birth rate began to rise again after the rural production responsibility systems were transferred to lower levels was not due entirely to the responsibility systems, but was caused by the fact that the cadres and masses were not clear in their thinking and became too lax in their work. After many communes and brigades combined responsibility systems, carried out "dual guarantees," and "stressed food, money and people together," obvious results were achieved. In the future, thinking should be unified, policy should be unified, cadres should take the lead, measures should be established, propaganda should be carried out well, and policies should be honored to regularize and systematize planned parenthood work so that population control work can be done well.

8226
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USE OF ECONOMIC CONTRACT LAW URGED IN AGRICULTURAL CONTRACTS

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5, 1982 pp 17-18

[Article by Li Yuanhe [2621 3293 0735]: "Study Economic Contract Law as a Means To Improve the Agricultural Production Contract System"]

[Text] The "Economic Contract Law of the People's Republic of China," passed by the Fourth Session of the Fifth National People's Congress, covers economic contracts signed by legal entities in China, and supplementary articles state: "Economic contracts concluded between individual enterprises and rural commune members and legal entities should be executed with reference to this law." Agricultural production contracts are economic contracts concluded between rural commune members and legal entities (production brigades) and should be honored with reference to the relevant stipulations of the Economic Contract Law. On the basis of the actual practice of the agricultural production contract system in force in Gansu, I would like to discuss some preliminary views and opinions on executing [contracts] with reference to the Economic Contract Law.

On Concluding Contracts

First of all, it is necessary to understand the basic principles which must be observed in concluding a contract and clarify the boundaries between a valid contract an an invalid contract. The Economic Contract Law stipulates that an economic contract concluded between legal entities must: 1) "obey state law and conform to the demands of national policy and planning; and 2) "follow the principles of equality and mutual benefit, negotiated agreement, and equal value compensation." On the other hand, "contracts which violate the laws, policies and planning of the state," "contracts which are concluded by deception or coercion," and "economic contracts which run counter to the national interests or the common interests of society" are invalid economic contracts and are not legally binding. Presently concluded agricultural production contracts must emphasize the following: 1) The unchangeability of the collective ownership of the basic means of production must be upheld. Land and other basic means of production of the contracting group, laborer, or household belong to the production unit, and the contractor is not permitted to buy or sell, rent, mortgage, allow to lie fallow, built on or use this land for graves. 2) The national interests and the common interests of society must be protected. National resources and the collective resources of neighboring communes and brigades may not be used as a unit's resource and contracted to commune members. Damage to state resources or to the collective economic interests of neighboring units through managing contract production is not permitted. 3) There must be conformity with the demands of the national plan. Contracts are to be concluded in accordance with the direct quotas and guideline quotas handed down by the state, integrated with the unit's actual circumstances and implemented concretely by group, laborer and household. 4) The rights, responsibilities and benefits to both sides must be negotiated in order to achieve agreement through thorough discussion by production brigade commune members and the masses.

Next, the important provisions which the agricultural production contract should have should be made clear. Regarding the important provisions which the Economic Contract Law stipulates an economic contract concluded between legal entities should have, the agricultural production contract generally should contain provisions concerning the following: 1) the contract quantity and usage demand for important means of production, such as land, draft animals and machinery and tools; 2) the contract production plan, output and income; 3) the method of distributing commodities and income, and stipulations on bonuses and penalties, time limits and methods for completing the state mission and the collective's retained share; 4) nonfulfillment by either party of its economic responsibility under the contract; 5) discussion by both parties of any other provisions that must be fulfilled.

Third, the various types of contracts and agreements should be conscientiously concluded. The contract must conform to principle, the content must be complete, the stipulations must be specific, the responsibilities must be clear, and every effort must be made to make it easy to carry out. There should be three copies of the contract: the production brigade and the contracting unit should each get one copy and one copy is to be sent to the brigade.

On Honoring the Agreement

The Economic Contract Law stipulates that an economic contract between legal entities "is established according to law, i.e., it has the force of law and the entities involved must either completely honor or terminate the contract." This stipulation completely fits the agricultural production contract. The group, laborer or household which is the contracting unit must use the basic means of production, establish a production plan, perform the production contracted and complete the mission to be handed over to the state and that to be retained by the collective in accordance with the demands of the contract. The production unit which receives the guarantees must supply the basic means of production for the contracted unit in accordance with the requirements of the contract. Both parties must meet all the commitments stipulated in the contract; they cannot avoid the difficult parts and carry out the easy ones, honoring only some of the commitments and ignoring others.

In principle, the Economic Contract Law stipulations on changing and terminating economic contracts are also suited to agricultural production contracts. The present agricultural production contracts permit changes or termination mainly in the following situations: 1) if the contract is difficult to honor in accordance with the original provisions due to severe natural disaster, the contract can be altered and the relevant quotas readjusted; 2) if certain specialized production items of the contract cannot be honored because of severe illness or injury to the contractor, the contract can be altered or terminated; and 3) if the state plan on which the contract is based is revised or cancelled, influencing the honoring of the contract, it can be altered and the relevant quotas readjusted. If some of the provisions of the contract are not altogether reasonable due to lack of experience, generally the contract should be honored as originally concluded, and then readjustment and improved in the next year.

The Economic Contract Law also has clear stipulations with regard to breaking an economic contract. Breaking an agricultural production contract should be handled depending on circumstances in accordance with these stipulations: 1) if a contract cannot be honored in whole or in part due to severe natural disaster, the relevant quotas can be readjusted in accordance with the situation, and all or part of the economic responsibility can be absolved; 2) if a contract cannot be honored in whole or in part because of a mistake made by one or both parties, the party or parties who have made the mistake should accept responsibility for breaking the contract; and 3) if a contract cannot be honored in whole or part because of a mistake made by an upper echelon leadership organ or responsible professional authority, responsibility for breaking the contract should be taken by the upper echelon leadership organ or responsible professional authority.

On Handling Contract Disputes

First of all, the parties involved should try to negotiate a resolution. According to the stipulations of the Economic Contract Law, after a dispute arises in an agricultural production contract, the production brigade should promptly investigate and instruct the party or parties in violation to act in accordance with the provisions of the contract. For contract disputes which are complex and involve a broader area, the production brigade should call a meeting of all commune members and democratically negotiate a resolution. Production brigades acting as legally declared representatives of a legal entity should take the lead in honoring contracts and implement the negotiated decision of the production brigade. Before contract disputes which cannot be resolved through negotiation are mediated and arbitrated by upper echelons, the production brigade should adopt measures to prevent the situation from exacerbating and, to the extent possible, reduce the economic loss to the nation, collective and individual commune members. As long as the work is done well, the majority of contract disputes can be promptly resolved within the production brigade.

Next, do a good job of mediation and arbitration work on contract disputes. Regarding the stipulations of the Economic Contract Law, the brigade and commune should be asked to mediate and arbitrate agricultural production contract disputes which cannot be resolved through negotiation; the other party may directly ask the brigade and commune to mediate and arbitrate disputes involving a brigade cadre who breaks a contract. The brigade and commune should accept the request, promptly organize their forces, investigate, hear the opinions of the masses and both parties to the contract, then mediate and arbitrate. They should carry out the policy of mediation first, arbitration second, persuading the party or parties breaking the contract to honor it, and thus reach a mediated agreement. Where responsibility for breaking the contract is clear but both sides' views of how to deal with it are not the same, the mediation unit will make an arbitration decision. Both mediation and arbitration should seek a fair and reasonable resolution, proceeding from what is best for production and unity, in accordance with the state law, statutes and policies, with the original contract as the basis. The contract signers should implement the mediation or arbitration decision, and the commune and brigade should oversee their compliance.

Third, the small number of contract disputes which still cannot be resolved by mediation or arbitration can be taken to the local people's court by the party involved. Other civil disputes which arise as a result of the contract dispute can also be taken directly to court. The court should hear cases of agricultural production contract disputes and decide them according to the law. The court's decisions are binding and the parties must carry them out.

On Contract Management

Agricultural production contracts should strengthen contract management in line with the demands of the Economic Contract Law concerning economic contract management.

The aim of agricultural production contract management should be to improve the agricultural production contract, reduce contract disputes, strengthen the handling of contract disputes, improve the contract fulfillment rate and the quality of fulfillment, strengthen and improve the agricultural production responsibility system, fully mobilize the initiative of commune members and the masses, raise the level of cadre management and promote the development of agriculture.

Agricultural production contract management organs: responsible agricultural sections should manage voluntarily in accordance with state stipulations. Specific opinions: these should be carried out by county, commune and brigade.

The main function of agricultural production contract management: the grassroots level agricultural production contract management unit should stress the following in accordance with the demands of the state with regard to economic contract management: 1) give guidance to production brigades and the commune member masses in concluding agricultural production contracts; 2) oversee contract implementation; and 3) mediate and arbitrate contract disputes.

With the spread of the agricultural production contract system, it is essential to formulate agricultural production contract management provisions. I propose that the relevant sections organize their forces, select a model county or commune, do some in-depth investigation and study, and in regard to the Economic Contract Law, formulate draft provisions for agricultural production contract management and gradually supplement and improve them in practice.

8226
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BEIJING

PROBLEMS OF COTTON FUSARIUM, VERTICILLIUM WILT DISCUSSED

Beijing RENMIN RIBAO in Chinese 7 Mar 82 p 2

[Article by Shi Leiyan [4258 4320 1484] of the Plant Protection Institute of the Chinese Agricultural Sciences Academy: "Fusarium and Verticillium Wilt of Cotton"]

[Text] Fusarium wilt and verticillium wilt of cotton are two important worldwide diseases. These two diseases occur in all of our nation's major cotton-producing regions, and cotton production has suffered from varying degrees of damage. Generally, the affected plants produce 20 to 30 percent less in yield.

Fusarium wilt and verticillium wilt of cotton are diseases that cause withering due to the invasion of the vascular bundles by parasitic fusarium fungi and verticillium fungi, which are low plant fungi. Although their symptoms are different, their common characteristic is that the ducts of the cotton plants appear brown in color (the color of cotton plants affected by fusarium wilt is darker).

There are mainly three factors causing the development of fusarium and verticillium wilt in cotton: first, there are definite number of pathogens; second, cotton varieties that are senstivei to the diseases are planted; third, the environment is suitable for the occurrence of the diseases. The suitable temperature for pathogens is about 25 degrees centigrade. In field observations, the peak period of occurrence of fusarium wilt is before or after the square of cotton emerges. Verticillium wilt beings when the plant has 4 or 5 true leaves and develops rapidly after the square emerges. The peak period of occurrence is during the boll-forming period.

The paths of propagation of fusarium and verticillium wilt of cotton are complex. As soon as they are propagated into the cotton fields, it is very difficult to eradicate them, and the consequences are severe. Bacteria-carrying cotton seeds are the initial source of propagation of fusarium and verticillium wilt diseases over long distances. Each cotton region should strengthen inspection when transporting cotton seeds before spring sowing to cut off this path of propagation. In the cotton fields, these two diseases can be spread by the roots, stems, branches, leaves of diseased plants, their cotton seed cakes used as fertilizers, the cotton waste of their cotton seeds, and water used for irrigation by channeling along furrows. Attention should be given to this in planting.

Fusarium and verticillium wilt of cotton were once regarded as "incurable diseases". Many years of prevention and control have proven that strengthening plant inspection, strictly protecting disease-free regions, planting disease-resistant varieties, gradually improving severely diseased regions, emphasizing rotational cropping and reverse cropping, reducing slightly affected regions, utilizing effective chemicals to eradicate diseased plants and diseased spots, eliminating scattered diseased regions and such comprehensive measures of prevention and control all produce notable results.

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CSO: 4007/333

BEIJING

STATE COUNCIL ISSUES NOTICE ON PREVENTION OF COTTON DISEASE

Beijing RENMIN RIBAO in Chinese 7 Mar 82 p 2

[Article: "State Council Issues Notice to Localities Listing Five Ways To Prevent, Control and Inspect Fusarium and Verticillium Wilt Disease of Cotton"]

[Text] The State Council recently issued a notice calling on localities to do a good job of preventing, controlling and inspecting fusarium and verticillium wilt diseases of cotton.

The notice says: fusarium and verticillium wilt are two destructive diseases of cotton. The seriously affected cotton plants wilt and die and cease to produce. In slightly affected plants, the yield is affected, and the length strengh and grade of fibers and such inner qualities are affected. This type of disease can be spread to distant places by seeds. Once the diseases are introduced, the germs can exist for a long time in thl soil and they are difficult to eradicate. The notice says: to guarantee the safety of our nation's cotton production, the following measures must be taken concerning the inspection, prevention and control of fusarium and verticillium wilt diseases of cotton:

1. Propaganda work must be carried out well so that the leadership and the masses in cotton-producing regions fully recognize the seriousness of damage by fusarium and verticillium wilt of cotton and the great significance of inspecting and treating the seeds well.

2. Before this spring's cotton sowing, the agricultural departments of each cotton-producing province, city and autonomous region must soncsientiously inspect the cotton seeds shipped from the diseased regions and disinfect seeds that may be carrying the diseases.

3. During the growth period of cotton, we must organize forces to survey the occurrence of the diseases in a key way on the basis of plans. On the basis of surveying and research, the severely diseased regions, the slightly affected regions and scattered regions where the diseases have occurred, should be clearly marked. In the severely diseased regions, popularization of disease-resistant varieties should be the main effort of comprehensive

prevention and control. In slightly affected regins and scattered regions of the disease, diseased plants must be removed in time to destroy the points of disease and to control spreading. To protect the disease-free regions, in the future, cotton seeds shipped into disease-free regions must be inspected by plant inspection departments and they must be disinfected and then popularized. Without approval by the plant inspection departments, seeds are not allowed to be popularized in disease-free regions. Those who violate inspection rules must be subjected to criticism and education, the economic responsibility must be pursued, and the cases must be handled strictly.

4. The cotton seed management system must be made sound. Bases for the propagation of superior varieties of disease-free cotton must be established, and inspection work at the production localities must be strengthened. In the future, propagation and popularization of cotton varieties and management and adjustment must be uniformly managed by the seed departments. Scientific research units cannot distribute at will new varieties which have not been evaluated and determined. When arranging new varieties for expanded experiments, approval by the plant inspection departments of the local province, city and autonomous region must be obtained.

5. The nation's scientific research coordination group on fusarium and verticillium wilt diseases of cotton must include in the key scientific research projects the selective breeding of new high-yielding and superior quality varieties that are concurrently resistant to fusarium and verticillium wilt diseases, and they must also include the study of techniques of disinfecting seeds and soil.

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BENEFITS DERIVED IN SETTING BASE PROCUREMENT, ALLOCATION FIGURES

Beijing ZHONGGUO CAIMAO BAO in Chinese 26 Jun 82 p 1

[Article: "Zhejiang Sets Base Figures for Procurement and Allocation of 14 Products, Strengthens Planning For Production and Purchase of Major Agricultural and Sideline Commodities"]

[Text] Zhejiang Province has instituted base procurement figures and base allocation figures for 14 major category II agricultural and sideline products in a program whereby the planned economy is paramount and market regulation supplementary. These will be put into effect in the production and procurement of agricultural and sideline products to promote the stable development of agricultural and sideline production and to increase quantities procured by the state.

During the previous period, in the sale to the state of agricultural and sideline products, some places in Zhejiang Province exhibited concern only for partial interests and overlooked the trend in state plans. Some of the agricultural and sideline product processing plants they operated themselves took raw materials away from some state industrial plants, impairing effectiveness in utilization of agricultural and sideline products. In some cases, before sales to the state of major agricultural and sideline products were fulfilled, goods were sold elsewhere thereby hurting fulfillment of state purchasing plans. In accordance with the spirit of the practice of centralized purchasing and quota purchases of category I and II agricultural and sideline products, and in accordance with the great or small importance to the national economy and the people's livelihood of different products, the Zhejiang Provincial People's Government studied the production and procurement situation for individual products, and in 1980 set base procurement figures or proportional procurement and retention figures for category II agricultural and sideline products including tea, silkworm cocoons, jute, citrus fruit, lumber, moso bamboo, maogao bamboo [3029 4643 4554], tung oil, Chinese tallow tree seeds, sugar, aquatic products, rosin, grass mats, and raw lacquer. While adhering to institution of a policy of centralized purchasing and quota purchases of major agricultural and sideline products, the requirements of the situation as a whole should be properly linked to the self-determination of production units and peasants to assure basic needs of the national economy and the livelihood of the people, with an exchange of commodities across jurisdictional lines.

As regards major agricultural and sideline products for which development of production is fairly stable, they set base procurement figures while also setting base allocation figures. For agricultural and sideline products in excess of base figures, they differentiated circumstances and adopted the following several methods:

(1) For traditional mainstay commodities such as tea and silkworm cocoons they instituted a division of excess and an increased price for excess procurement. In the case of tea, for example, the base procurement figure for the province was 1.1 million dan, and the base allocation figure for unfired tea leaf was 1.04 million dan, guaranteed to remain unchanged for 5 years. Sixty percent of tea leaf production in excess of base figures was centrally purchased by supply and marketing cooperatives, and 40 percent was handled by communes and brigades. After fulfilling quotas, production units could sell the remainder themselves and could, with permission, transport it elsewhere for sale. Production unit and commune member sales to the state of tea in excess of base figures brought higher prices. The increased price paid production units and commune members by dealer units was derived from a reduction in industrial and commercial taxes levied. Profits from the refining of unfired tea leaf from tea producing counties to state tea refining plants in excess of allocation figures are to be divided on a 30-70 basis, i.e., 30 percent being retained by the tea refining plant and 70 percent reverting to the county making the excess allocation for use in development of tea production.

(2) For industrial raw materials in extremely short supply within the province such as rosin, there is to be centralized procurement and increased price bonuses. The province's base procurement figure for rosin is 3,750 tons; it is 120,500 dan for pine resin 80 percent of which is to be allocated by the province with no change guaranteed for 3 years. For quantities in excess of base figures handled by communes and tree farms, a profit of 2 yuan per dan of pine resin is to be paid by processing plants for sales in excess of base figure. In the case of counties providing rosin in excess of base figures, the province will provide a subsidy of 800 jin of nitrogenous fertilizer and 250 jin of unprocessed food grain per ton of excess rosin sold. It will also allocate and sell industrial goods for use in daily life at a value equal to the resin.

(3) Where demand is limited, production in excess of base figures will be purchased at list price. One example is jute for which purchases at list price have been set at 2.55 million dan and purchases at negotiated price set at 450,000 dan with centralized allocation by the province guaranteed without change for 5 years. Jute in excess of 3 million dan will revert to procurement at list price.

(4) Where changes in the market supply and demand situation are unpredictable, purchases will be made at fluctuating prices. In the case of straw mats, for instance, the province's base procurement figure is 5.13 million mats centrally allocated by the province with no change guaranteed for 3 years. For quantities in excess of the base figure, supply and marketing

cooperatives will make purchases at fluctuating prices or else act as a purchasing and marketing agent.

In cases in which output is very unsteady or quantities purchased very small to begin with, or where active development of agricultural and sideline products is in process, they will set purchase and retention proportions and proportions to be purchased at list price and negotiated price.

In the process of setting base procurement figures, Zhejiang Province both gave attention to concurrent concern for the welfare of the state and peasants, and gave attention to concurrent concern for the interests of prefectures, municipalities, and counties as well as to concurrent concern for the welfare of commune and brigade enterprises. Every item was discussed by pertinent planning, agricultural, industrial, finance and trade, and commodity pricing department, and after a unanimous opinion was obtained, only after submitting the matter to the Provincial Government Standing Committee for discussion and approval was it handed down for implementation. Thus there was rather good concurrent concern for the interests of the country, collectives, and individuals, and for the interests of all departments. Though not tried for very long, and though some methods are still being steadily improved; nevertheless, during the past 2 years some initial benefits have been obtained. First of all the country's basic needs have been guaranteed. In recent years procurement of Zhejiang's tea, silkworm cocoons, and hemp has increased, the fundamental needs for state industrial plant production being assured. The shortages of commodities in some markets have also been ameliorated from what they had been for the previous several years. In addition, both production and procurement are more planned. In the case of moso bamboo and silkworm cocoons, for example, after the state had set base procurement figures, all production areas instituted quotas on production units, and all production units made specific arrangements about production in turn. After fulfilling plan, production units could arrange production on the basis of market demand and production, thereby reducing blindness in production. In procurement too, the situation was changed from formerly when whatever was produced was purchased, helping assure the country's basic needs. As a result of the development of production, both the country and the peasants have increased their earnings. In 1980 after the peasants had overfulfilled base figures for sales to the state, as a result of increased prices or negotiated prices paid in the process of procurement, earnings increased directly or indirectly by 70 million yuan. In 1981, they increased further to 80 million yuan. As far as national earnings are concerned, though the state reduced taxes to increase profits when buying products in excess of base figures and used some revenues to subsidize the peasants; nevertheless, as a result of the growth of production, once procurement had increased, the amount that the state took back in industrial and commercial revenues as a result of processing and sales amounted to more than the subsidies provided the peasants. Take tea for example. As a result of increasing profits through reduction of taxes last year, the state bought 466,000 dan of tea in excess of base figures. A rough preliminary calculation shows that as a result of the processing and sale of this tea, industrial and commercial tax revenues increased by more than 60 million yuan. After deducting the somewhat more than 24 million in taxes, allowed as profits for peasants, the state realized increased tax revenues amounting to about 40 million yuan from the processing and sales links.

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BRIEFS

TYPHOON 11 WARNING--The Central Meteorological Observatory at 0600 [2200 GMT] on 7 August issued the following typhoon warning: At 0500 on 7 August, the center of this year's typhoon No 11 was located in the Pacific approximately 350 kilometers southeast of Hengchun Municipality, China's Taiwan Province--20.9 degrees north latitude and 124 degrees east longitude. Winds near the center increased to wind force 11 to 12. At present, the typhoon is moving west-northwesterly at a speed of about 10 kilometers per hour. It is expected to continue this course and to gradually approach the coastal areas of our country's Taiwan Province. It may land in southern Taiwan's coastal areas between tonight and tomorrow morning. Then, it will move toward Fujian Province's coastal areas. As a result of the typhoon, winds will gradually increase to wind force 6 to 8 in the Pacific east of Taiwan, Taiwan Province, the Bashi Channel, the Balintang Channel, the Taiwan Straits as well as Fujian's and eastern Guangdong's coastal areas between today and tomorrow. In the areas of or near the course of the typhoon's center, winds will range from wind force 10 to 11, and there will be heavy or torrential rain. All units are asked to listen carefully to local weather forecasts. [Text] [OW071055 Beijing Domestic Service in Mandarin 2230 GMT 6 Aug 82]

CSO: 4007/537

BRIEFS

EARLY RICE HARVEST--According to an estimate on 16 July, Fujian Province has already harvested more than 1.1 million mu of early rice. The single crop output of the six prefectures and cities of Sanming, Jinjiang, Putian, Longyan, Xiamen and Longxi has increased over the same period in 1981. However, because of an overall delay in ploughing and planting this year in various locations, and also because there were more rainy days and fewer sunny days in the month of June, the early rice maturing period had been delayed this year. As a result, harvest progress was slower than the same period in 1981. Prefectures and cities such as Jianyang, Fuzhou, and Ningde all had reduced output compared to the same period last year due to disasters like flooding and rice blast disease. Jianyang Prefecture harvested more than 150,000 mu of early rice, a decrease of 108 jin of yield per mu compared to this time last year. [Fuzhou FUJIAN RIBAO 22 Jul 82 p 1]

CSO: 4007/535

BRIEFS

SUMMER GRAIN PROCUREMENT--The Gansu Provincial People's Government held a telephone conference on 3 August urging governments at all levels to strengthen leadership over the summer grain procurement and storage work. Xu Feiqing, deputy governor of the province, presided over the conference. This year the province will reap a better harvest of summer grain than last year. It is estimated that the total yield will increase by some 10 percent. [SK062212 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 5 Aug 82 SK]

CSO: 4007/537

PROVINCIAL CCP COMMITTEE FIRST SECRETARY SPEAKS ON RURAL PROBLEMS

Guangzhou YANGCHENG WANBAO in Chinese 20 Jun 82 p 1

[Article: "Perseverance in Diverse Forms of Agricultural Production Responsibility Systems Is Emphasized by Ren Zhongyi [0117 0112 1138] at Provincewide Prefecture CCP Committee Agricultural Secretaries Conference. Rural Work at the Present Time Should Preserve 'Three Consistencies,' Give Attention to the 'Three News,' Take Firm Hold of the Building of the Party's Grassroots Level, and Intensify Building of Spiritual Civilization"]

[Text] Guangdong CCP Committee First Secretary, Ren Zhongyi said recently at a conference of Prefecture CCP Committee agricultural secretaries studying new conditions, and new problems in the wake of institution of agricultural production responsibility systems and the study of how to go about giving further forward impetus in future to agricultural work in Guangdong Province that the CCP Central Committee had repeatedly emphasized its intention to institute policies of liberalization toward foreign countries and to enliven the economy internally. Institution of diverse forms of agricultural production systems is firm and unshakeable.

Comrade Ren Zhongy noted that the key to whether or not we are able to be "firm" in this way in our work lies in how we handle the new problems that appear following institution of these policies. For example, following institution on responsibility systems in agriculture, had the new problems that appeared been ignored rather than diligently solved, or had these problems been overly exaggerated to bring about an actual negation of these policies and a retrogression away from them, then "firm" would have become empty talk. Conscientious study of new conditions, and genuine solution of new contradictions and new problems, plus unswerving carrying out of the line, program and policies of the Third Plenary Session of the 11th Party Central Committee with positively no wavering at all is something that we must be extremely attentive in mastering in our rural work and in all work. Therefore, all jurisdictions must diligently study and spread the representative experiences introduced at this conference. However, in studying and spreading them, one must proceed from one's own realities without copying mechanically in disregard of specific conditions.

In speaking about current rural work, Comrade Ren Zhongyi emphasized first the preservation of the "three consistencies."

First is consistent policies. Agriculture depends on policies, both on policies that are accurate and on policies that are consistent.

Second is consistent production responsibility systems. In deciding just which form of a responsibility system to adopt, each place has to adapt general methods to local situations. The leadership has to give tailored guidance to different areas. Consistent responsibility systems and perfected responsibility systems are one and the same; they have to be perfected in order to be more consistent.

Third is a consistent grain growing area. No further reductions can be made in Guangdong Province's grain growing area, particularly in its rice growing area; it must remain consistent at existing levels.

Comrade Ren Zhongyi noted that simultaneous with implementation of the "three consistencies," adroit guidance according to circumstances had to be provided, with attention given the "three news" as follows:

First is the spread of new techniques.

Second is organization of new combinations.

Third is the opening of new fields of production.

Comrade Ren Zhongyi emphatically pointed out the need to take firm hold of the building of the party at the grassroots to lay a good foundation for development of all endeavors. This is an assurance for achievement of the three "consistencies," and attention to the "three news," it is also an assurance for doing all rural work, and for building new socialist rural villages.

Comrade Ren Zhongyi also pointed out that rural villages also had to strengthen the building of socialist spiritual civilization including development of rural cultural, educational, sanitation, and athletic endeavors. The peasants should be educated in socialism, patriotism, and collectivism, and educated in concurrent concern for the three [country, collective, and individual]; routine ideological and political work should be intensified; prevailing habits and customs should be changed; and a campaign of five cares and four beautifications should be launched, etc.

This provincewide Prefecture CCP Committee Agricultural Secretaries Conference convened by the Provincial CCP Committee was held in Guangzhou from 10 to 18 June.

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REVISION OF LATE RICE CROP PLANTING PLANS URGED

Guangzhou NANFANG RIBAO in Chinese 14 Jun 82 p 2

[Article: Need for Attention to Readjustment of Crop Patterns for Late Crop Varieties in View of Expected Delay in Ripening of Early Rice Crop"]

[Text] Recently the Guangzhou Municipal Agriculture Committee held a conference on rice production in Panyu County. Agricultural experts and comrades from agricultural departments attending the conference analyzed this year's early crop production situation and advised the following: Inasmuch as ripening of the early crop will be later this year than in former years, action must be taken at once to readjust crop patterns for late crop varieties in order to make the most of advantages and avoid disadvantages to win a bumper harvest from the last crop.

Provincial units concerned report that this is a general problem throughout the province that must be accorded a high degree of serious attention. This is because, first of all, as a result of the return of cold spring weather that hurt this year's early crop, in many of the province's prefectures sowing and transplanting was done later than in former years. In Guangzhou Prefecture the delay was from 7 to 10 days. Second, temperatures were not high during the "vegetative growth stage" following transplanting and before the differentiation of young panicles. Statistics from the Tianhe Station of the Provincial Meteorological Observatory show that during the 70 day period from March to early May, total cumulative temperatures were 136 degrees less than during the same period last year. For the 40 day period during April to early May, total cumulative temperatures were 109 degrees less than for the same period last year. Early rice is a temperature sensitive variety, and when cumulative temperatures are insufficient, the period of young panicle differentiation is delayed and the ripening time may be delayed too. Third, in many places the number of late ripening varieties in the early crop are numerous. In Guangzhou Prefecture rural villages, for instance, they account for about 65 percent of the total crop, an all-time high year. Fourth, more rain than usual fell during late May and June, and there was less sunshine than usual. All these factors have made for delayed ripening of the early crop this year as compared with former years, producing a great impact on the late crop production season.

Analysis in terms of historical circumstances also merits attention. Post-liberation historical records show that years with a return of coldness in the spring are years when possibilities for a bumper harvest from the early crop are fairly great, while the late crop is prone to reduced yields. This is because when a return to cold in spring occurs during the early crop, the ripening time for the early rice will generally be delayed. If the late crop contains too many late ripening varieties, or if it is not transplanted just when it should be, the late rice crop will be unable to avoid the cold dew winds or cold damage, which will result in reduced yields.

This year Guangdong Province's early rice has again been fairly seriously stricken with a return of cold weather in spring. It is recommended that all jurisdictions decide at once to promptly readjust their crop patterns for late rice varieties, making appropriate cutbacks in the area planted to late ripening varieties and increasing the area planted to early and intermediate ripening varieties. Comrades attending this conference also emphasized that in places practicing responsibility systems whereby output quotas are fixed on a household basis and whereby peasant households assume full responsibility for task completion, because many peasants lack knowledge about scientific farming, leaders at all levels are to do good ideological work, explain reasons, and help with the proper matching of late crop varieties. All jurisdictions should promptly allocate seeds from places with surpluses to places with shortages, and rapidly organize their movement to places where they are needed to satisfy urgent peasant needs. In addition, preparatory work of other kinds should also be done, as for example, all around inspection and repair of all kinds of farm machines and implements, further implementation of plow oxen responsibility systems, protection of draft animals, attention to transportation of fertilizer reserves, and prompt movement into places where they are needed. Only in this way can there be any assurance that late rice crop transplanting tasks will be completed before the proper farming season has passed for the winning of a bumper grain harvest for the year as a whole.

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PLASTIC MULCHING OF SUGARCANE PROMOTED

Gaungzhou NANFANG RIBAO in Chinese 14 Jun 82 p 2

[Article by Wang Jianming [3769 7003 2429], director Sugarcane Institute, Ministry of Light Industry: "New Technique of Plastic Mulching Sugarcane Being Promoted in Province Has Great Prospects"]

[Text] Though China did not invent plastic mulching, its use has developed very rapidly in China, and it is used in extraordinarily ingenious ways. Following a visit to China, American professor Weitewaer [phonetic] said in a report to the American Department of Agriculture as follows: The things that the Chinese People's Republic are studying in the field of agricultural science are very numerous, one of which is creative development of agricultural applications of plastic mulching.

The plastic mulching of sugar that Guangdong Province is promoting as a new technique has great prospects. This is because every year in the cane producing regions of the province serious winter and spring drought seriously threaten the winter growth of seedlings of early maturing cane that have been left in the ground, and of the dormant roots of early maturing varieties, with the result that early maturing varieties reproduce slowly. This means that neither the early maturation characteristics nor the high sugar properties of early maturing varieties can come to the fore, and thus the large expenditure by the state on preferential subsidies for early maturing varieties are wasted, with no noticeable increase in sugar during the early cane crushing season. If plastic mulch is used to cover winter-planted early maturing sugarcane, and if plastic mulch is used to cover the dormant roots of early maturing sugarcane, this problem can be pretty well solved. Furthermore, the coastal saline field sugarcane growing area, which constitutes a substantial part of the area of the province, is in danger from salt damage even on sunny days. If plastic mulch is spread between sugarcane rows before the rows grow shut at some time between planting and the seelding stage, not only will weeds be reduced between rows, but capillaries in the soil will also be prevented from bringing water to the surface, and increase in the salt content of the soil surface will thereby be controlled.

The new technique of covering sugarcane with plastic mulch helps all cane growing more canes and to increase their sugar content. It helps improve sugarcane farming methods to meet sugar refinery production requirements, so it greatly helps both industry and agriculture. For example, it has played an active role in increasing both cane output per mu and earlier ripening of the autumn planted sugarcane that was promoted for cultivation during the 1970's. However, as a result of the 14 to 15 month growing season required for fall planting sugarcane, the soil utilization rate is fairly low. Currently, not only in the Pearl River delta and the Hanjiang Delta, where land is scarce relative to population, has the cane growing area declined, but even in the Zhanjiang cane growing area, where land is relatively abundant in terms of population, the same trend had occurred. (In Xuwen and Haikang counties, for example, the fall planted cane area now amounts to only one one-thousandth and three one-thousandth of the total area planted to sugarcane. Were the new farming techniques of fall propagation of seedlings with winter and spring transplanting to be used (plastic mulching used during the periods of low temperature in winter and spring), the cane would have an open field growing season of about 11 months, and virtually the same benefits could be obtained in terms of cane yields per mu and high yields of sugar from the early crop as from the growing of fall sugarcane.

In addition, in high altitude cane growing areas where frost and freezes occur, frost and freezing shorten the sugarcane growing period with the result that the cane frequently does not mature sufficiently, the sugar content of canes tends to be low, and yields are limited. In such cane growing areas, sole use of early maturing high sugar varieties is not enough. If plastic mulch is used to cover winter planted or early spring planted cane, the growing season can be extended, resulting in both an increase in cane yields per mu and an earlier ripening season. In addition, by using plastic mulch to cover dormant roots in cane growing areas where frost and freeze would damage dormant roots left in the soil, thereby establishing a local dormant root system of cane growing, losses from storage of varieties could be avoided. Even in cane growing areas without frost and freezing, dormant roots may be covered with plastic mulch to lengthen the number of years dormant root sugarcane will live, to increase output from dormant root sugarcane, and to cause earlier ripening of dormant root sugarcane, (preliminary experiments show cane sugar content can be increased by an absolute 1.5 percent) thereby gradually reducing sugarcane production costs and gaining the initiative in management of sugarcane production.

Were plastic mulching of sugarcane promoted generally, economic benefits would increase strikingly, particularly since dryland sugarcane in Guangdong Province accounts for more than 70 percent of the total sugarcane growing area, with most of the sugarcane growing area sustaining serious winter and spring drought, including some sugarcane areas where water conservancy conditions are very poor and not readily improvable. Formerly, it was impossible to use growing of seedlings in winter for spring planting during dry periods in such sugarcane growing areas, and by the time the rainy season had come, the crushing season was finished. If one wanted to get seedlings for summer planting, there were no seedlings to be had. In addition, roots of dormant sugarcane, when taken up during winter or early spring, also suffered from a great loss in vitality as a result of sustained drought. During the following year not only were they slow to put forth shoots, but shoots did not grow evenly and yields were very low. Were winter and spring grown sugarcane directly planted and covered with plastic mulch, or were seedlings being grown in nutrient pots covered with plastic mulch for transplanting during the time of spring rains in the succeeding year, and were dormant sugarcane roots also covered with plastic mulch, the growing season for spring sugarcane would be advanced, and both yields per mu and sugar content would be increased. Furthermore, the threat from winter and spring drought to newly planted sugarcane would be reduced. Such a method of combating and preventing drought is more realistic than simply carrying out spray or drip irrigation, and is also more active than waiting for particularly drought resistant varieties to be bred.

At the present time some cadres and masses fear that mulching of sugarcane may increase production costs and reduce earnings. Practice in pilot project units has demonstrated that such apprehensions are unnecessary. Take the case of the Xiaxue Production Team in Yanggongzhou Production Brigade, Shatian Commune, Dongguan County, for example. In mid-January this year, they used 200 kilograms of plastic mulch to cover 27 mu of dormant root sugarcane for a month, after which this same plastic mulch was again used to cover 30 mu to promote sprouting of spring sugarcane that had been planted. The average cost for plastic mulch was only 13 yuan per mu, equivalent to the price paid for 171 kilograms of Yuetang 57/423 sugarcanes, or 143 kilograms of Guitant No 1 sugarcanes. Even if the cost of plastic mulch for dormant root sugarcane were 30 yuan per mu, that would not be more than the price of 450 kilograms of sugarcanes. Meanwhile, during the past 2 years, wetland dormand root sugarcane grown at plastic mulch pilot project units produced at a rate of increase of between 0.5 and more than 1 ton per mu. For example, our institute experimented with plastic mulching of dormant root sugarcane in fields surrounding the institute, and even though mulching was delayed until March, sugarcane output increased from somewhat more than 15,000 jin to somewhat more than 19,000 jin, an increase of 19 percent. At the Zhanjiang Sugarcane Experimental Station, sugarcane grown on hill drylands was plastic mulched at the end of March last year for an increase in output as high as 30 percent. Thus, the increase in sugarcane yields more than offsets the cost of the plastic mulch, and since the mulch increases the sugar content of the cane and hastens maturity, this translates into added income.

Plastic mulching of sugarcane in combination with the culturing of cane seedlings in nutrient pots is without doubt a major technical measure for increasing sugarcane output and increasing sugar in Guangdong Province. However, inasmuch as not much time has elapsed since introduction of this technique into the province, it has to be rapidly promoted for use throughout the province's sugarcane growing areas, which will require efforts by all concerned. In addition to doing a good job in setting up pilot points to provide demonstrations, intensifying research, and conducting publicity, appropriate bonus policies should also be adopted. At Shatian Commune in Dongguan County, plans call for an increase next year in the sugarcane area mulched with plastic to 5,000 mu. Payment for the plastic will be made from a loan from the Peasant's Bank arranged for by sugar refineries concerned in the county, who will be responsible for paying interest to the bank. Except for the cost of the plastic, all or most of resulting increase in earnings will go to communes and brigades. Other jurisdictions should note their method.

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CSO: 4007/475

BRIEFS

EARLY RICE HARVEST--Guangdong Province has reaped a record harvest of early rice and an increase of 700 million jin is expected. Apart from Shaoguan Prefecture and the seriously flooded areas, all counties have increased production output in varying degrees. There were many natural disasters this year. In spring, there was plenty of rain and the temperature was very low. In May, heavy rain fell in Qingyuan, Yingde, Guangning and Sihui counties and there were maintain torrents. Some 2.5 million mu of early-crop fields were flooded, of which, some 600,000 mu were damaged. Despite natural disasters, the province was able to reap a harvest of early crops due to the implementation of the production responsibility system. Furthermore, some 30,000 peasants had signed technological contracts with technological departments, which has improved the standard of scientific planting. [HK041103 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 1 Aug 82 HK]

CSO: 4007/537

BRIEFS

LOW-YIELD LAND IMPROVEMENT--The Guangxi Regional Agricultural Bureau allocated 20,000 tons of chemical fertilizer to 120 communes to improve 2 million mu of low-yield farmland. The regional agricultural bureau held a meeting with the directors of the prefectural and county agricultural bureaus to form a policy to make good use of chemical fertilizer so as to strive for a bumper harvest of late rice. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 14 Jul 82 HK]

EARLY RICE PRODUCTION--Guangxi region reaped a bumper early rice harvest. According to preliminary statistics, the region's total output of grain up to the present is 800 jin more than in the corresponding period of last year. Output of peanuts, rapeseeds, flue-cured tobacco, tea, cocoons, pineapples and bananas has shown relatively great increases. The number of communes throughout the region which are commercial grain bases has increased from 150 in 1980 to 197 this year. The arable land area accounts for 41 percent of the entire region's arable land area. With the vigorous support of relevant departments, the development of grain production in the region has been promoted. [HK100950 Nanning Guangxi Regional Service in Mandarin 1130 GMT 4 Aug 82 HK]

CSO: 4007/537

TECHNIQUES OF CULTIVATING COTTON SEED 'LUMIAN NO 1' GIVEN

Shijiazhuang HEIBEI RIBAO in Chinese 13 Mar 82 p 2

[Article by the Economic Crops Department of the Provincial Bureau of Agriculture: "Discussion on One-Time Sowing and Preserving Full Seedlings of Cotton--Supplement to the Article 'The Techniques of Cultivating Lumian No 1'"]

[Text] In the article "The Techniques of Cultivating Lumian No 1" published on 1 March, the section on "striving toward one-time sowing to preserve full seedlings" pointed out the necessity to select the appropriate sowing time. In addition, the following must also be done:

1. The density must be appropriate and the structure of the colony must be rational. Lumian No 1 has a strong boll-forming characteristic. It has more summer bolls, the potential of the individual to increase yeild is great, and the plant consumes a lot of organic matter. To obtain high yields, many ways must be used to create conditions for the plant to manufacture organic substances. The most important way is to solve the problem of light. If the problem of light energy is solved well, the variety's characteristics will be able to develop, and thus higher yields can be obtained. Therefore, we must not unilaterally emphsize dense planting of small plants. At present, the problem in large area production is that the row distance is overly close, and missing seedlings and broken ridges are serious. When the row distance is too close, not only is field management inconvenient, but in rainy weather this causes the formation of a canopy in the cotton field. Boll forming on the middle and lower parts of the plant is poor, the number of rotten bolls increases, and this leads to reduced yields. If the row distance is slightly larger, then during years of drought, sometimes the cotton plants will not close up the ridges tightly, and because aeration and light penetration are better, the middle and lower parts form more bolls, the weight of the bolls increases, the quality of cotton is better, and there will not be large losses. A relatively more rational structure of the colony of Lumian No 1 is: a plant height of 1 meter and a per-mu yield of about 180 jin of ginned cotton, a row distance of 2.5 chi, a distance of 8 cun between plants, and an actual harvest per mu of about 3,000 plants; a plant height of 80 centimeters, a per-mu yield of ginned cotton of 100 to 120 jin, a row distance of 2.2 chi,

a distance of 7 cun between plants, and an actual harvest per mu of 3,500 to 4,000 plants; a plant height of 60 centimeters, a per-mu yield of ginned cotton of 80 to 100 jin, a row distance fo 2 chi, a distance of 6.5 cun between plants, an actual harvest per mu of 4,500 plants; a plant height below 60 jin, a row distance of 1.6 to 1.8 chi, a distance of 6 cun between plants, an actual harvest per mu of 5,000 to 6,000 plants. With such row distances, should we use large and small rows or equidistant rows? We can follow local custom; we should not forcefully practice uniformity. In general, if the average row distance is over 2.3 chi or under 1.8 chi, equidistant rows would be better. If the average row distance is about 2 chi, it is suitable to use large and small rows.

. The seeds must be treated well. To shorten the time the cotton seeds have to remain in the soil, the seeds must be treated at the time of sowing so that the cotton seeds are in a state ready for germination. Sowing should be carried out when about 20 percent of the cotton seeds have reached the stage of pouting and budding.

There are many ways of treating cotton seeds. A good method is the following: On the morning of the first day, the cotton seeds should be soaked in hot water that has been "boiled three times and left to cool once" or "boiled two times and left to cool once" for half an hour, or the seeds can be directly soaked in cold water for 48 hours until the cotton seeds absorb sufficient moisture, the pericarp of the seeds softens, and the cotyledon separates into layers. The seeds are then taken out and dried under the sun for a while until the short cotton lint becomes white. Then, the cotton seeds are piled up overnight into a level pile of one and a half chi or two chi for stewing to stimulate germination until about 20 percent of the seeds begin pouting. Now, they are ready for sowing. When using Furandan granules to mix with the seeds, the chemical can be mixed with the seeds after forced budding. Each mu of cotton seeds can be mixed with 4 to 5 jin of 3 percent Furandan.

3. Selecting an appropriate sowing method. Each locality must determine an appropriate sowing method according to the local moisture condition, the condition of the seeds and the custom. Generally, it is better to use machine sowing or exposed sowing. It is better to use furrow seeding in saline and alkaline soil. In dryland where the moisture condition is poor, sowing by deep drilling to lift up the soil or dibbling with water can be carried out. Regardless of which sowing method is used, some reserve seedlings must be planted on the sides of the fields or on the backs of ridges to prepare for transplanting and replacing missing seedlings.

4. After sowing, management must be strengthened in time. Attention must be paid to inspecting each ridge and each parcel of land, and when problems are discovered, they should be solved in time. If the weather is arid and there is a lot of wind, if the moisture condition of the soil deteriorates, if there is a danger of the seeds drying up, packing to

improve moisture in the fields where bottom moisture conditions are good should be undertaken to improve the water supply in the seed layer. When the bottom moisture condition is poor, a small amount of water can be irrigated along the ridges with a small water kettle so that the water will gradually percolate to the cotton seeds. If little rain occurs after sowing, the hard covering layer of the ground should be broken up in time. If heavy rain occurs, the ground should be harrowed deeply for aeration to help the seedlings emerge from the soil. Harrowing should be as deep as the sowing depth. When the seedlings emerge in rows, the soil should be intertilled and loosened in time to bring out the moisture, to preserve bottom moisture and to stimulate the growth of the seedlings.

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CSO: 4007/333

HEILONGJIANG

BRIEFS

QINGGANG COUNTY FARMING--Qinggang County, Heilongjiang Province, takes advantage of the opportune time after the rain to plant grain crops, vegetables and forage grass. Though stricken by drought and insect pests this year, the county still plans to plant 13,000 mu of buckwheat, 24,000 mu of vegetables and 53,000 mu of forage crops. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 21 Jul 82 SK]

FIELD MANAGEMENT--Yilan County in Heilongjiang Province is vigorously strengthening field management to cope with natural disasters and try to improve poor growth of seedlings. There are over 400,000 mu of crops across the county, which have been damaged in varying degrees by insect pests. Therefore, the county has dispatched over 100 tractors to join the extra operation of weeding, plowing and banking soil to poorly growing crops. The county has planted vegetables over its 70,000 mu farmland whose former crops were totally damaged by the drought and insect pests. [SK190010 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 17 Jul 82 SK]

SURFACE WATER SURVEYING--Through 3-year efforts, hydrogeological technicians in Heilongjiang Province have worked out statistics on provincial surface water sources. Over the past many years, the province's per year precipitation was 531 mm. Its per year evaporation volume is 391 mm, and its per year surface water resources total 655.81 centimeters. [SK302244 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 29 Jul 82 SK]

WHEAT HARVESTS--Farms in land reclamation areas throughout Heilongjiang Province have begun their harvesting operation. As of 20 July, they had harvested 905,000 mu of wheat crops and threshed 417,000 mu of wheat crops, obtaining about 64.5 million jin of net wheat. [SK220350 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 21 Jul 82 SK]

CSO: 4007/537

BRIEFS

AGRICULTURAL, SIDELINE PRODUCTS STATISTICS--By the end of June, peasants of Hubei Province had sold agricultural and sideline products to the state valued at 1.61 billion yuan, an increase of 30 percent as compared with the same period last year. By 5 July, the province had overfulfilled its procurement quota of summer crops and rapeseed. In the first half of the year, procurement of pigs increased by 106,000 head over the same period last year. Procurement of tea and tung oil have also increased. Vegetable supplies in markets increased by 22 percent over the same period last year. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 15 Jul 82 HK]

CSO: 4007/537

BRIEFS

WATER CONSERVATION WORKS REPAIRED--Some 80,000 small- and medium-sized water conservation works have been damaged by floods in the middle of June. While restoring production, the relevant prefectures and municipalities organized human and material resources to repair the damaged water conservation works. According to initial statistics of Xiangtan, Hengyang, Lianyuan and Chongde prefectures, some 840,000 people have taken part in repairing water conservation works. At present, some 22,000 water conservation works have been basically repaired. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 14 Jul 82 HK]

CSO: 4007/537

MEASURES SPECIFIED TO PREVENT WHEAT DISEASE

Jiangsu XINHUA RIABO in Chinese 2 Mar 82 p 2

[Article: "Pay Attention to the Prevention and Control of Pellicularia Gramineum Ikata et Matsumura"]

[Text] Cadres and commune members in farm villages know very well about the damage of sheath and culm blight of rice, but they are relatively unfamiliar with Pellicularia gramineum Ikata et Matsumura, which urgently needs attention.

According to observations and measurements by the Zhengjiang Prefecture Agricultural Science Institute from 1979 to 1981, Pellicularia gramineum Ikata et Matsumura is caused by the rhizoctonia fungus. In recent years, it has appeared on several popularized varieties in Zhengjiang Prefecture. It has spread relatively quickly and its damage is relatively serious. The Dantu County Agricultural Bureau investigated 504 parcels of wheat fields and found that the number of severely diseased parcels reached 9.3 percent. In 1981, Wujin, Jintan, Lishui, Gaochun, Yangzhong Counties surveyed 397 small parcels of wheat fields and found that the average number of diseased plants reached 25.7 percent.

The Pellicularia gramineum Ikata et Matsumura and sheath and clum blight of rice are notably different regarding the time of occurrence. Sheath and culm blight of paddy rice generally begins during the tillering period of paddy rice. Wheat is affected by Pellicularia gramineum Ikata et Matsumura during different stages of growth; thus we find rotten buds, dead seedlings, diseased seedlings, rotten stalks and flower stems, and wilted bearing spikes. Wilted bearing spikes or lodging caused by the rotting of flower stems seriously affect the yield. Rotting of flower stems is characterized by the occurrence of light brown diseased rhombus spots on the lower leaf sheaths, generally after the wheat seedlings have returned green. As the temperature rises and the whest seedlings joint, the base of the leaf sheath first produces waterlogged elliptical spots, then greyish cloudy diseased spots appear on the central part and light brown cloudy diseased spots occur at the edges. This is called "mosaic stalk." Afterward, in rainy and highly humid weather, white or yellowish-white layers of hypha can be seen on the inside of the diseased leaf sheath and the stalks. When the germs of the leaf sheath affect the stalks, short light brown striped spots first emerge and then they expand into rhombus spots (called eye spots). When the diseased spots on the stalks enlarge and connect and spread over the entire internode, frequently the wall of the stalk softens, causing physiological loss of water and the plnat dies from necrosis, or the diseased parts split open longitudinally and the wheat plant withers prematurely. Mosaic stalks and rotting stems prevent some plants which could form spikes originally from forming spikes, or cause some plants to form wilted bearing spikes. Although some may be able to head, because of insufficient nutrients and moisture, the number of fruited grains per spike are reduced, and the weight of grains drops. Zhengjizng Prefecture's Agricultural Science Institute measured the wheat varieties "ning mai No 3" and "zheng 7630" from 1979 to 1981: When the diseased spots occur on the leaf sheath of the reverse third leaf, the thousand-grain weight drops 2.8 to 3.2 grams. When the diseased spots occur on the leaf sheath of the reverse second leaf, the thousand-grain weight drops 4.1 to 5.4 grams. Just this one item alone causes a loss of 11 percent to 13 percent in yield.

Different varieties of wheat show notably different resistance to Pellicularia gramineum Ikata et Matsumura. Zhengjiang Prefecture's Agricultural Science Institute tested the disease resistance of 424 wheat varieties and strains by artificial inoculation in 1981 on the basis of evaluations made during the 2 previous years. Among them, the varieties "naing mai No 3", "ning 7317", "9-10-8-3", "zheng 7630", "qun zong 42", "su mai No 3", "si mai 117", "Taishan No 1", and "Anhui 11" suffered more seriously from the disease. The percentage of diseased plants reached 16 percent to 55 percent.

To better develop the potential of increased yields of presently available superior varieties of wheat, sufficient attention must be paid to the prevention and control of Pellicularia gramineum Ikata et Matsumura, especially in regions along the banks of the Changjiang and in southern Jiangsu where there is a lot of rain and where the temperatures are high. These conditions frequently cause damage due to dampness or overcast. Prevention should be the main effort in the prevention and control of Pellicularia gramineum Ikata et Matsumura, and prevention and control should be comprehensive. First, all ways must be used to increase the application of organic fertilizers. Attention must be paid to timely sowing. Furrows should be dug to reduce dampness, and weeds should be removed. In prevention and control by chemicals, emphasis should be placed on wheat fields of the early crop of susceptible varieties. An effective farm chemical is the jing gang [0064 1511] mycin. The first application of the chemical should be made during the period when the number of diseased plants is visibly increasing, generally during the first and middle 10 days of March. In fields where the disease has occurred early or is especially serious, the chemical should be applied appropriately earlier. Another application can be made 15 to 20 days later. For each application, 1 percent of jing gang mycin of 1 to 1.5 shi jin mixed with 10 shi dan of water per mu can be sprayed manually or by machine. If the chemical is mixed with 120 to 150 shi jin of water as a mist, the chemical solution should be strictly sprayed at the base of the wheat plants to enable the chemical solution to come into widespread contact with the germs. The effectiveness of prevention generally can reach about 70 percent. In regions where the disease occurs frequently or where the disease is serious, during autumn sowing, 1 percent jing gang mycin of 1.5 shi jin per mu can be used on a trial basis to cover the seeds to reduce rotting of buds. The rate of germination can reach above 91 percent, higher than the control by 10 percent to over 28 percent.

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BRIEFS

AGRICULTURAL MEETING--On 10-14 July, the provincial agricultural department held a meeting of responsible persons of agricultural bureaus of the prefectures and Nanjing city to work out plans on autumn farming following the good summer harvest. This year's good wheat and rape harvest is largely attributable to expanded acreage. This was done at the expense of winter green manure acreage and rational crop rotation. Also, the broadcast sowing and continuous growing of wheat have resulted in widespread growth of weeds in 5 to 6 million mu of land, causing a loss of nearly 100 million jin of grain. The meeting called for proper planning on autumn planting, rational crop rotation and other remedial measures. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 17 Jul 82 OW]

GRAIN PRODUCTION--By the end of June, the state had purchased more than 3.6 billion jin of summer grain in Jiangsu Province, 12.5 percent above the state plan, or 1.1 billion jin more than in the same 1981 period. The amount of rapeseed purchased was 660 million jin, 20 percent above the state plan, or 220 percent more than in the same 1981 period. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 3 Jul 82 OW]

XUZHOU PREFECTURE STORM DAMAGE--Xuzhou Prefecture, Jiangsu, has drained 4 million mu and repaired 680,000 mu of corn and cotton fields damaged by recent heavy rains, wind and hail. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 11 Aug 82 OW]

RURAL HOUSEHOLD INCOME--According to a survey conducted by the Jiangsu Provincial Statistical Bureau, of 1,000 rural households at 71 points in 22 counties, commune members' income in the first half of 1982 increased 38 percent over the same period last year, with per capita income reaching 109.3 yuan, an all-time-high. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 12 Aug 82 OW]

YANCHENG PREFECTURE AGRICULTURAL PRODUCTION--Jiangsu's Yancheng Prefecture increased its annual total grain output from 4.5 billion jin in 1978 to 5.3 billion jin in 1981, cotton from 2.59 million dan in 1978 to 3.94 million dan in 1981. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 12 Aug 82 OW]

HUAIBEI REGION RAINSTORM--From the evening of 21 July to the morning of 22 July, Huaibei Region which includes Jiangsu, Anhui and Henan Provinces, had a torrential rainstorm over a large area. 25 cities and counties, 8 of which are in Jiangsu Province, had over 100 mm of torrential rain within 12 hours. Zhumadian in Henan Province had up to 307 mm, Xiao County of Anhui Province had up to 361 mm and Xuzhou Municipality, also of Anhui, had up to 234 mm of rain. Since the rainstorm, the middle and upper reaches of Huai He beyond Lake Hongze have produced a floodwater capacity over 12 billion cubic meters. Bangfu Dam had, by 27 July, a flood-peak flow capacity of 8,000 cubic meters per second. On 29 July, Lake Hongze had a flow capacity of about 9,700 cubic meters. Peicang Prefecture near Yi He (in Anhui) and Shu He (in Jiangsu) had rainfall of 100 mm. Lake Luoma had 600 million cubic meters of water. The water level of the Lixia He area after this rainstorm was expected to rise to 1.6 meters. The areas affected by the rainstorm have mobilized in all-out way to combat flooding and waterlogging. [Excerpts] [Nanjing XINHUA RIBAO in Chinese 23 Jul 82 p 1]

BACTERIAL INSECTICIDES--Nanjing, 17 Jul (XINHUA)--A method of vegetable pest control by bacteria is being applied to 1,130 hectares of vegetables, about one-fourth of the vegetable gardens in the suburbs of Nanjing, according to the city's vegetable research department. The bacterial insecticides used in Nanjing belong to the bacillus thuringiensis family and have evidenced little pollution or side effects thus far. They are more effective in killing such farm pests as cabbage worms and moths than other pesticides. One kilogram of the bacterial insecticide, which can be used on 0.5 hectares to 0.6 hectares, costs only 2 to 3 yuan. The expenditure of bacterial insecticides per hectare is 50 percent less than the farm chemicals. With the bacterial insecticides, the vegetables appear to grow better than those applied with farm chemicals, and do well on the market. The study and experiments on the bacterial insecticudes began in 1977. [Text] [OW181818 Beijing XINHUA in English 1219 GMT 17 Jul 82 OW]

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BRIEFS

GUANGFENG COUNTY GRAIN PURCHASE--By 9 August, Jiangxi's Guangfeng County had delivered 18,144,000 jin of summer grain to the state, overfulfilling this year's quota. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 11 Aug 82 OW]

JIUJIANG PREFECTURE EARLY RICE--Jiangxi's Jiujiang Prefecture has harvested 1.4 billion jin of early rice, 10 percent more than last year. The average per-mu early rice output was 623 jin. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 11 Aug 82 OW]

JINXI COUNTY DIVERSIFIED ECONOMY--Jinxi County in Jiangxi has achieved good results in promoting diversified economy. In 1981, the county produced 160,000 dan of hemp and over 400 dan of tea, which increased the county's annual per capita income by some 30 yuan. The acreage of growing hemp, tea and tangerines has increased from 9,000 mu in 1976 to 62,000 mu at present. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 12 Aug 82 OW]

CSO: 4007/537

PEASANTS' PURCHASING POWER INCREASES

SK120747 Changchun Jilin Provincial Service in Mandarin 1100 GMT 11 Aug 82

[Text] Since the 3d Plenum of the 11th Party Central Committee, our province has made a great development in agricultural and sideline production, enabling the rural economy to enliven and the peasants to increase their income while continuously improving their lives and their purchasing power, thanks to the further implementation of the party's rural economic policies.

According to statistics, the peasants' purchasing power for commodities in the province in 1981 was 3.1 billion yuan, an increase of 55.8 percent over the 1978 figure and an average increase rate of 15.9 percent a year, which was higher than the 14.8 percent annual increase of urban people's purchasing power.

The commodities that the peasants bought showed a great change because of increased improvement in their standard of living. In the past, peasants put the materials of daily life before the materials of agricultural production in their purchases. Food, clothing and daily necessities of dependable quality were the most popular goods. At present they give priority to purchasing the means of agricultural production and buy consumer goods in a choosy way with an emphasis on improving living conditions.

In 1981, the supply volume of agricultural production materials for the supply and marketing cooperatives throughout the province showed an increase of 52.3 percent over that of 1978. The increase in agricultural production means was three times the increase of consumer goods. In 1981, the sales of chemical fertilizers reached 1,680,000 jin, an increase of 96.7 percent over that of 1978. The sales of pesticide, farm plastic film and medium- and small-sized farm tools increased by a large margin.

The retail sales volume of consumer goods increased 16.7 percent over that of 1978. The sales of 48 major industrial products showed comparable increases; particularly such durable consumer goods as bicycles, radios, sewing machines, clocks and watches showed great increases in the past three years. The sales of those five durable consumer goods in the period of 1979 to June 1982 witnessed increases like those of the 1974-1978 period. The continuous increase of the supply of commodities to rural areas alleviated the short supply of durable consumer goods.

CSO: 4007/537

BRIEFS

COMBATTING DROUGHT--In Jilin Province, the Shuangliao Couty CCP Committee and government transferred a large number of county-level office cadres to organize drought-resistance work groups to help combat drought. Shuangliao County has had little rainfall for over 2 months, and the temperature remains high. The seedlings of cereal crops in some areas have withered. The county CCP committee and government encouraged office cadres to combat drought and organized them to go to the countryside to rush-sow early-ripening crops and melons and vegetables and strive to reduce the losses caused by drought. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 15 Jul 82 SK]

CSO: 4007/537

BRIEFS

RAINFALL REPORT--Beginning from the morning of 5 August, many areas in Liaoning Province experienced rainfalls. As of 0500 on 6 August, moderate and heavy rains fell in most areas of Chaoyang, Jinzhou, Fuxin, Tieling, Shenyang and Dandong. Some areas experienced torrential rains. The precipitation was 15 to 55 mm in general. Thanks to these rainfalls, the drought in some areas has become less serious. However, some areas still suffer from drought due to fewer rains. [SK080050 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 6 Aug 82 SK]

CSO: 4007/537

BRIEFS

GRAIN PURCHASE--Peasants in Tumd Right Banner, Nei Monggol Autonomous Region, have actively sold wheat to the state. By 3 August the banner had set aside for storage 810,000 jin of summer grain, doubling the corresponding 1981 figure. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 7 Aug 82 SK]

GOOD CROP EXPECTED--Ju Ud League, in Nei Monggol, is expecting a good harvest. Barring extraordinarily serious natural disasters in the future, there will certainly be an exceptionally good harvest. The league cultivated 62,353,000 mu of crops this year, of which 10,833,000 mu are grains and soybeans and 258,000 mu are oil-bearing crops. [SK051222 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 31 Jul 82 SK]

LIVESTOCK PRODUCTION--Despite successive years of drought, in Ju League, Nei Monggol Autonomous Region, is having good results with livestock production. The number of livestock in the league exceeds 6 million, 74,000 head more than in 1964, a year that boasted the largest number of livestock. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 3 Aug 82 SK]

LIVESTOCK OUTPUT--Hulun Buir League, Nei Monggol Autonomous Region, has made great progress in raising milk cows. The league has over 38,000 head of milk cows. There are over 15,000 households in the league which have engaged in raising milk cows. In the first half of 1982, the league registered a 1.8-fold increase in milk procurement over previous records. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Aug 82 SK]

ULANQAB LEAGUE LIVESTOCK OUTPUT--Ulanqab League, Nei Monggol Autonomous Region has reaped a bumper harvest in animal husbandry this year. According to statistics, the league has over 6.66 million head of animals, a 24.2 percent and 150,000 head increase over the figure of the corresponding 1981 period. Meanwhile, the league has built over 100,000 mu of man-made pastures and has registered over 1 billion jin increase of fodder grass over the 1981 figure, which may be consumed by 185,000 animals. According to statistics compiled at the end of the fiscal year, the league registered a 30,000 head increase of female animals and a 207,600 head increase of young animals over the figures of the corresponding 1981 period. [SK060552 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Aug 82 SK]

RAINFALL REPORT--Some areas in Nei Monggol Autonomous Region have had rain in the past few days. Precipitation ranged from 30 to 100 mm in Ih Ju and Ulanqab leagues and Hoohot and Baotou municipalities, according to statistics released on 3 August. Otog and Hanggin banners have had 56 and 30 mm of precipitation respectively. The rains are conducive to the growth of field crops and to easing the drought in the western part of Ju Ju League. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 4 Aug 82 SK]

CSO: 4007/537

NEW EMPHASIS GIVEN HOUSEHOLD RAISING OF LIVESTOCK, POULTRY

Jinan DAZHONG RIBAO in Chinese 26 Jun 82 p 1

[Article: "Effective Way To Develop Livestock Industry. Taian Prefecture's Experiences in Livestock Production of Using the 'Four Households,' All Rising Together"]

[Text] Taian Prefecture has summarized the lessons of past experience to adopt a system of "four households" all rising together to hasten growth of the livestock industry. This is a new road they have pioneered through practice for fairly rapid growth and fairly high economic benefits.

In this prefecture's development of the livestock industry, by the "four households" is meant specialized households, key households, combinations of households, and ordinary households. Specialized households are households that have contracted care of collectively owned livestock. In addition, they are households that use their own funds, equipment, and skills, and with the support of the collective, have net earnings of more than 1,000 yuan from the livestock industry. Most of the workforces in these households are engaged in livestock industry production; most do not contract to farm land; and some of them farm only fields to produce their grain rations and livestock fodder in a gradual movement toward specialized farming. Key households both contract the farming of land and the raising of livestock and poultry. The collective permits one member of the household's workforce to engage solely in livestock production. Net earnings from the livestock industry amount to more than 500 yuan. They sign economic agreements with production teams, and within households there are the beginnings of a specialized division of labor. Combinations of households means peasant households that have a fairly large surplus of work days, but that themselves have difficulties in developing household livestock raising enterprises and thus receive support from the collective, the commune members turning over to the collective funds, and manure as stipulated, with workpoints being recorded and participation in distributions permitted, the households themselves deciding the kinds of livestock they will raise. Sometimes the livestock are purchased by production teams and raised by households, contracting being done with the collective for a small amount of livestock or poultry, such as contracting for one or two head of cattle or several hogs. Ordinary households means common peasants who develop livestock raising industries with the help of household workforces, using their own fodder and customary methods. No matter what type of household, all institute centralized management, and all receive support from the collective with some funds (or young livestock), fodder (or fodder producing land), with commune members turning over funds and manure to the collective, having workpoints recorded, and participating in distributions. This method not only makes the most of the superiority of the collective economy, but also arouses the initiative of individual commune members. It both insures growth of key households and maintains a mass aspect. This is a new path for gradual specialization and development of commodity production in the livestock industry following general institution of production responsibility systems. Now the number of specialized households, key households, and combinations of households in Taian Prefecture has grown to more than 400,000, accounting for one-third the total number of peasant households in the prefecture as a whole. Last year the prefecture's livestock industry reached an all-time high, with gross earnings amounting to 167 million yuan, which was 15 percent of gross agricultural earnings.

Though not much time has passed since adoption of the "four households" rising together system for growth of the livestock industry in Taian Prefecture, there have been evident advantages: First is an all around growth of the livestock industry, the six major livestock animals proliferating. The "four households" all rising together method has focused development of the livestock industry on the myriad of peasant households, bringing together through economic support the collective and commune member families, both working in harness together, each household developing and being able to raise whatever animals it likes, or raising whatever is needed, for an initial change in the imbalance within the livestock industry. Raising of large livestock has rapidly climbed again; steady growth has taken place in hog raising, and the raising of sheep and goats, rabbits, and poultry has seen all around development. A survey done in Loyao Production Brigade, Feicheng County shows that this brigade developed more than 300 specialized households, key households, and combinations of households last year, and that the number of large livestock increased from 105 head to 490 head; the number of sheep and goats rose from 37 to 802; the number of rabbits increased from 87 to 3,200; the number of poultry went from 3,000 to 12,600; and the number of live hogs being fed rose by 600 head. Earnings from the livestock industry in the brigade amounted to 30.2 percent of average distributions. Second, is gradual movement toward specialization and development of commodity production. Last year, of the prefecture's more than 100,000 specialized households, key households (accounting for 8 percent of the total number of peasant households in the prefecture) produced 80.2 million yuan net earnings from the livestock industry. This amounted to almost one-half the total earnings from the livestock industry in the prefecture as a whole. In Fengtai Brigade, 150 specialized households and key households last year alone provided the country with 200,000 jin of various kinds of meat, an average per household contribution of 1 ton of meat. The commodity rate rose, and costs noticeably declined. A survey of 100 production teams in Taian and Laiwu counties showed more than 25 percent less labor being used than last year by specialized households raising animals, and a 30 percent saving in forage grass, plus about a 25 percent saving in feed. Third is use of traditional livestock raising skills and promotion of new livestock raising techniques. Specialized households and key households have both made the most of commune member proficiency in a particular line, and have become leading households in the promotion of advanced feeding techniques. At the present time, an unprecedented enthusiasm for "science" has occurred among the prefecture's households engaged in the raising of livestock. Everywhere the peasants are seeking fine breeds, inquiring about feed formulas, and asking advice on ways of preventing and treating diseases. They are striving to raise fine breed livestock and poultry, striving to use mixed feeds, and striving to use advanced, scientific feeding techniques. Formerly the entire prefecture annually bred only 200,000 fine breed chickens, but in a single quarter of this year breeding was expanded to more than 1.8 million. Fourth is use of local funds to tap production potential. With development of the livestock industry, various sources of forage grass and livestock feed and family compounds have been put to full use, and members of commune households are able to play a role in the livestock raising industry. Commune member Yang Ruxiang [2799 1172 4382] of Shengzhuang Commune in Taian City had a crippled son who formerly had nothing to do at home for many years. After his family became a specialized household and labor was equitably divided among family members, he became the mainstay in livestock raising. Last year alone the family raised 13 head of hogs, plus two sows, five oxen, and also contracted the raising of 13 hogs for the production team. Thanks to the painstaking care and scientific feeding done by the family as a whole, net income amounted to more than 3,200 yuan. Last year more than 100,000 specialized households and key households in the prefecture had average per household earnings of 764 yuan, and 18,000 specialized households had net earnings of more than 1,000 yuan.

In adopting the system of "four households" all rising at the same time for development of the livestock industry, Taian Prefecture made sure to master four problems as follows: 1) Adaptation of general methods to specific situations and proceeding in accordance with capabilities. In the development of various forms of livestock feeding households, communes and brigades made sure on the basis of individual economic strength, the workforce situation, natural resources, and the livestock raising habits of the masses, to develop whatever kind of household that was suitable, and to raise the kinds of livesotck that could be raised with no "arbitrary uniformity." 2) Diligent implementation of policies and supporting all types of households in developing household livestock feeding industries, thereby linking the collective and commune member household so that the myriad of peasant households and the collective formed a totality. Prefecture support to commune members took four main forms as follows: One was collective support with some funds and help in the purchase of livestock (or poultry) to those households who increased the raising of livestock and poultry above and beyond the already established household livestock raising industry, repayment being made after the households realized earnings. Second was help in solving problems in getting forage grass and livestock feed. In some cases those raising a large number of livestock or poultry were assigned land for the raising of livestock feed; in other cases, forage grass or livestock feed was apportioned on the basis of distribution prices; and in still other cases, help was given with the processing and mixing of feeds. Third was help in building of livestock pens and poultry coops. In some cases the collective provided the labor and materials; in some cases consturction was done centrally, and in some cases help was given in the form of some materials or workpoints. Fourth was the use of bonuses, bonus workpoints being awarded on the basis of the number of livestock raised in some cases. In other cases a system was used whereby little cash was surrendered to higher authority and high distributions were made, meaning surrender of money to the production team at a rate of from

10 to 20 percent below the production team individual work value, but distributions being made on the basis of total work value. 3) Establishment and perfection of an all around service system. To meet needs of "four households" rising at once, the prefecture set to work to establish several service systems. One was a livestock and poultry fine species breeding system. In addition to the fine breed farms established by the prefecture and counties, 900 fine breed livestock and poultry breeding households and 340 stud livestock households were developed. A second was a veterinary medicine service system. In addition to operating county and commune veterinary medicine stations, all production brigades trained one or more veterinary personnel, and promoted contracting of livestock and poultry epidemic prevention and livestock raising care techniques. Third was a livestock feed service system. Some communes and counties began to construct livestock feed processing plants, and most production brigades set up livestock feed processing plants. Fengtai Production Brigade in Taian City established a livestock feed production and supply cooperative to produce balanced livestock feeds for livestock raising households. Loyao Production Brigade in Feicheng County established a livestock feed processing plant with a daily output of 10,000 jin. Fourth was a production and marketing service system. The prefecture established an integrated livestock, industrial, and commerical company, and six different communes established economic diversification service companies or trade warehouses. Culai Commune warehouse in Taian City signed an agreement with Shanghai for the raising of geese, last year supplying Shanghai with 350 tons of goose. This year they signed another agreement for 1,200 tons. 4) Good ideological work to assure the handling of matters in accordance with agreements. In the institution of "four households" all rising together, in addition to continuing to be guided by state plan and under the centralized direction of production teams, it is also necessary to give attention to frequent education of the various kinds of livestock raising households in patriotism and collectivism so that while they are developing household livestock feeding, they will think of the country and the collective and consciously handle matters in accordance with agreements, first of all assuring fulfillment of state procurement plans for livestock and poultry, surpluses being sold in markets, and also turning over funds and manure to the collective as agreed, in the proper handling of the interests of the country, collectives, and individuals.

9432
CSO: 4007/1550

BRIEFS

HEAVY RAINS--Most counties and districts in Tianjin Municipality experienced torrential or heavy rains from daytime through the night of 4 August. Ji County had 50 millimeters of rain, the most in the municipality. Some fields were covered with water. [SK062208 Tianjin City Service in Mandarin 1430 GMT 5 Aug 82 SK]

CSO: 4007/537

BRIEFS

ANIMAL HUSBANDRY--Xinjiang has scored a steadily increasing output in animal husbandry for 5 consecutive years. According to statistics, the total number of livestock at the end of June was 34 million, an increase of 1.2 million over the same time last year and a record. Fewer than usual animals died during the winter. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 20 Jul 82 HK]

CSO: 4007/537

BRIEFS

AGRICULTURAL MEETING--On 16 July, the Zhejiang Provincial Party Committee and people's government held a province-wide broadcast rally on summer harvesting and planting, calling for efforts to overcome natural disasters and win victory in summer harvesting and planting. Vice Governor Wu Zhichuan presided over the meeting. Chen Zuolin, secretary of the provincial party committee and vice governor, spoke. He called for efforts to fulfill the year's grain output target of 30 billion jin. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 16 Jul 82 OW]

GRAIN PROCUREMENT--Recently the provincial food department held a meeting of prefectural and city food bureau directors to arrange early and middle-season rice procurement and storage work. Vice Governor Wu Zhichuan spoke at the meeting. He said that a good early rice harvest is in sight in the province. Thus far, more than 600 million jin of spring grain have been procured and put in storage in Zhejiang, overfulfilling the provincial spring grain procurement target by 32 percent. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 17 Jul 82 OW]

FARM, SIDELINE PRODUCTS--During the first 6 months of 1982, Zhejiang procured 17,350 million yuan worth of farm and sideline products, marking an increase of 4.5 percent compared with that in the same period in 1981. They include 5.53 million hogs, 1.42 million dan of tea and many other products. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 25 Jul 82 OW]

LAND RECLAMATION--Since 1978, Zhejiang has reclaimed over 1 million mu of cropland from tidal land, hilly areas and river banks. The reclaimed areas produce 300 to 400 million jin of grain and other agricultural produce a year. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 9 Aug 82 OW]

COMMUNE, BRIGADE PRODUCTS--During the first half of 1982, Zhejiang's commune- and brigade-run enterprises turned out 2.7 billion yuan worth of products, marking an increase of 8.9 percent over that of the same period in 1981. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 26 Jul 82 OW]

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END

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AGRICULTURE

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CHINA REPORT

AGRICULTURE

No. 223

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I. GENERAL INFORMATION

SCIENTIFIC USE OF PESTICIDES OUTLINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 17 Jun 82 p 4

[Article: "Scientific Use of Chemical Pesticides"]

[Text] Use of chemical pesticides is a major current technique for eliminating or reducing losses caused to farm crops by diseases, insect pests, and weeds. However, if used improperly the goal of prevention and control will not be attained or damaging side-effects may be produced. Therefore, we have to understand the properties and methods of use of various kinds of pesticides as well as understand diseases, insect pests and weeds if chemical pesticides are to be used scientifically.

1. Understanding pesticide properties so as to suit the remedy to the problem. In addition to understanding the chemical properties of various pesticides (such as volatility, solubility, hygroscopicity, and toxicity), it is also necessary to understand their methods of use (whether they are stomach poisons, contact insecticides, systemic insecticides, or fumigants). One must also understand the objects to be controlled (whether insecticides, bactericides, acaricides, or herbicides are to be used), and how to use them. Benzene hexachloride, for instance, is a broad sprectrum insecticide for the elimination of many kinds of harmful insects; however, it causes very little damage to Prodenia litura. For use, 3 jin of a six percent powder is mixed with 30 to 50 jin of fine soil per mu, and scattered evenly on the ground. Alternatively between 1 and 1.5 jin may be added to about 800 jin of water and used to water the ground to prevent damage from paddy borers during the seedling stage and the panicle formation stage of rice. Before the tassel has formed on corn, a six percent miscible powder in a 600 volume solution may be used to water the central leaves to prevent and control corn borers with good effect.

2. Accurate diagnosis with prompt use of the right pesticide for the disease, insect pest, or weed situation. Diseases, insect pests, and weeds vary in their sensitivity to pesticides at different stages. For example insect ova and pupae are extremely resistant, but young insects have extremely weak resistance to insecticides from the time they are first hatched until they are 3 days old. Pathogenic bacteria are strongly resistant to pesticides when they are spores, but following germination, their resistance greatly weakens. Weed resistance to pesticides is weakest between the time of sprouting and the three leaf stage. Therefore, in the prevention and control

of diseases, insect pests, and weeds, pesticides should be applied when their resistance to them is weakest to eradicate them early before they can cause damage.

Insect mouths differ and react differently to pesticides. Chewing insects are very susceptible to stomach poison or contact insecticides. Sucking insects are very susceptible to systemic or contact insecticides. Consequently, only through accurate diagnosis and selection of the pesticide that does the job can pesticides eradicate insects.

3. Strength and volume of pesticides must be right. Arbitrary increase in pesticide strength or increases in the number of times applied are the main reasons for pesticide poisoning of crops, residual toxicity, and accidental poisoning of humans and livestock. Therefore, in using pesticides, one must determine the proper strength and volume of pesticides to be used depending on environmental conditions at the time, disease and insect pesticide resistance, the growth stage of crops, and the properties of the pesticide being used.

4. Pesticide application methods commensurate with different disease, insect pest, weed, pesticide, and climatic conditions. For example, prevention and control of harmful subterranean insects generally requires use of toxic soil, toxic bait, and treatment of the soil. Prevention and control in warehouses or other places that can be readily closed tightly entails use of fumigation methods. For pathogenic bacteria in seeds, usually a pesticide is either mixed with the seeds or seeds are soaked in it. In the prevention and control of yellow rice borers, toxic soil may be sprinkled on the ground, while prevention of rice blast requires spraying. During times of high temperatures and drought, pesticide concentrations should be reduced, and in overcast periods or when humidity is high, concentrations may be properly increased. When fairly windy, the spray head should be slightly depressed for spraying, and when there is a lot of morning dew, spraying should not be done.

5. Attention to safety of humans and livestock and prevention of pesticide damage to crops. In the case of parathion, for example, application should be made no less than 30 days before harvest; benzene hexachloride may not be used on melons; 2,4-D may not be used on dicotyledonous plants, and fenitrothion damages vegetables in the mustard family and should not be used on them. Chloropicrin should not be used to fumigate already processed grain and crop seeds. One must make certain to read labels carefully before using pesticides, and not use pesticides of poor quality. New pesticides should first be tested on a small area before use.

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CSO: 4007/479

BRIEFS

NATIONAL POLLUTION CONFERENCE--The Science and Technology Bureau of the Ministry of Commerce recently held a national conference on research work in preventing pollution of food grain and oil in Nanning. According to research theses, our country has done a good job of studying pollution of food grain and oil. Since the state scientific and technology commission called for attaching importance to preventing pollution of food grain and oil in 1976, the Ministry of Commerce has launched many investigations and scientific examinations and has a basic understanding of the pollution situation in our country. The regional research center for preventing pollution of food grain and oil has inspected 18 types of grains and oil and taken 1,900 samples, and some effective measures were formulated. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 13 Jul 82 HK]

CSO: 5000/4066

PREPARATIONS AGAINST POSSIBLE FLOODING URGED

Shijiazhuang HEBEI RIBAO in Chinese 4 Jun 82 p 1

[Article: "Provincial Government Issues Notice on Doing a Good Job of Flood Prevention Work This Year. Forecasts Call for Overly Large Amounts of Rainfall in Most Prefectures of Province Between June and August This Year"]

[Text] The Provincial People's Government has issued a notice requiring all jurisdictions to do a good job of flood prevention work this year.

The notice said that forecasts call for between 10 and 30 percent more precipitation in most prefectures of the province between June and August this year, and varying degrees of flooding and waterlogging will take place in eastern prefectures. During this year's high water season, for most of the rivers in the province this will be a moderately high year; however, fairly heavy flooding of some streams may occur. Possibility of flooding of medium and small size streams in the eastern and southeastern parts of the province is greater. It is particularly noteworthy that eastern prefectures, particularly the Sanjiang Plain, last year had a serious flood disaster and quantity of rainfall this spring was again fairly great. Further occurrence of fairly heavy precipitation will mean a continuation and intensification of the waterlogging situation. Consequently, all jurisdictions are required to do the following: 1. A good job of mental mobilization to prevent floods and eliminate waterlogging. Conscientious summarization and absorption of the lessons of last year's experiences in the struggle to prevent floods and combat disaster; education of cadres and masses in establishing a mentality of "primary emphasis on prevention to prevent recurrence of rescues," with good mental preparations being made to prevent large-scale flooding and to combat great disaster, seizing the initiative in the prevention of flooding and the elimination of water logging. 2. Careful safety inspections for flood prevention, and hastening of the pace of project maintenance and repair. All administrative offices, and municipality and county people's governments should thoroughly inspect the present condition of projects that impact over a wide area and about which safety questions are great, promptly solving problems that are brought to light. 3. Resolutely clearing obstacles that block the flow of water through watercourses to assure the capacity of streams to carry away flood waters. All municipality and county peoples governments must hew to the principles of "clearing of obstacles by those who created them." 4. Good preparations in flood situation monitoring and reporting, forecasting, communications and liaison, and materials. All levels of flood prevention, meteorology, and hydrology departments are to promptly and accurately understand and analyze the flood situation and the trend of its development, and issue timely reports. All jurisdictions are to ready materials early for flood prevention. 5. Concern for the situation as a whole, unity, and cooperation. Flood prevention work involves all departments and all units. During the flood season, and particularly when floods occur, all departments and units are to be concerned for the situation as a whole, unite, cooperate, submit to centralized direction, and diligently fulfill their flood prevention and rescue tasks.

9432
CSO: 4007/474

SUMMER HARVESTING, PLANTING, FIELD CARE OCCUPY PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 5 Jun 82 p 1

[Article: "Handan Prefecture Urgently Mobilizes For the 'Three Summer Jobs.' Focuses On High Temperatures and Hot Dry Winds, Which Have Created Seriously Disadvantageous Conditions For Production"]

[Text] In view of the seriously disadvantageous conditions for agricultural production currently caused by the onslaught of recent high temperatures and hot dry winds, the Handan Prefecture CCP Committee and government administrative offices have made urgent preparations for the "three summer jobs" [harvesting, planting, and field management]. They have required that all levels of leadership throughout the prefecture rapidly act to fully arouse the masses for triumph over adversity, and seize the opportunity for combat to fight a victorious production war of the "three summer jobs."

The Prefecture CCP Committee and government administrative offices have required all counties to centralize planning of the summer harvest as quickly as possible, to arrange for threshing grounds, and to make satisfactory arrangements for the use of machinery for harvesting, hauling, and threshing. They are to resolutely establish a mentality of struggle against drought, and to fulfill the high standards their more than 2.5 million mu corn sowing task. They should seize the opportunity for combat, use every minute and every second, and hasten the planting of corn in furrows between the wheat, and the dibbling of seeds to combat drought. When planting in furrows simply cannot be done, it should be done quickly after harvesting of the wheat. In western mountain regions where water is in particularly short supply, preparations should be made to open furrows, dig holes, and dibble the seeds. In addition, care of the spring sown cotton crop should be of majore concern. There should be prompt inspection and replacement of missing seedlings, cultivation, watering, and control of insects to assure full stands of sturdy seedlings. During the summer harvest season, if care of the cotton suffers for lack of full planning, responsibility will be fixed level by level.

The Prefecture CCP Committee and government administrative offices required all counties, communes, and production brigades in the prefecture to treat the "three summer jobs" as an overriding central task in rural villages. During the period of the "three summer jobs," the Prefecture CCP Committee and government administrative offices will resolutely reduce the number of meetings or hold no meetings at all; they will particularly not hold large conferences. The Prefecture CCP Committee and government administrative office principal leaders, and all persons in charge in various departments of prefecture organizations are to go into the frontlines to direct combat. Except for those needed for duty, all personnel in various departments of prefecture organizations are to go to counties for a period of work. Party, government, trade union, youth, women, and cultural and educational department leadership cadres are to lead groups of people to go to counties to help do the "three summer jobs." Aside from those needed for duty, all personnel in organizations under direct control of counties (or districts) are to work in communes and brigades. All industrial and commercial units are to formulate plans for vigorous support of the "three summer jobs," and all work must make way for the "three summer jobs."

9432
CSO: 4007/474

CALL FOR ALL-TIME HIGH FARM OUTPUT PUBLICIZED

Shijiazhuang HEBEI RIBAO in Chinese 3 Jun 82 p 1

[Article: "Unprecedented Increase This Year in Turnout of Work Forces, Draft Animals, and Farm Implements. Party Policies Used To Stir Enthusiasm of Masses. Prefecture CCP Committee Calls For War on 'Two Disasters' Following Completion of Spring Sowing For High Yields and To Win a Bumper Harvest To Create an All-Time High in Agricultural Production"]

[Text] As of the end of May, spring sowing had been substantially completed in Zhangjiakou Prefecture. The Prefecture CCP Committee and government administrative offices called on people throughout the prefecture to advance on the crest of victory to take effective action in a "war on the two disasters to bring about high yields and win a bumper harvest," in an effort to surpass all-time highs for grain and edible oil production and average per capita economic income.

Zhangjiakou Prefecture has had consecutive years of drought. Last winter and this spring the broad masses of cadres took various actions to combat drought and assure spring sowing. As of 25 May, except for short season crops such as naked oats and broomcorn millet, spring sowing had been virtually completed throughout the prefecture. Spring sowing this year was characterized in the following ways: First was sowing on time. The sowing of all staple crops was finished ahead of schedule, the sowing season lasting 10 to 15 days, which was shorter than previous years. Second was good quality of sowing. The soil was painstakingly prepared; base fertilizer sufficed; planting was done scientifically; and in the sown fields there was no sight of stubble, clods of soil, or of hard or grassy embankments between fields. Seedling growth was even, in full stands, and strong. Third was an increase in the area planted. Embankments between fields were removed and weirs developed; something was planted in every crack; unused bits of land were planted, undeveloped and waste lands were plowed and planted, about 400,000 mu more being planted in the prefecture. Fourth was intercropping of numerous varieties. In Zhuolu County, for example, intercropping of corn and wheat was increased by 8,000 mu; intercropping of corn and potatoes was increased by 7,000 mu; and intercropping of corn with garlic and onions was increased by 20,000 mu. Some hilly areas intercropped five sets of crops, as follows: corn with soybeans, millet with red beans, potatoes with string beans, rapeseed with sunflowers, and sunflowers with black soybeans.

The broad masses of cadres and people felt that the emergence of such a fine situation in the farflung rural villages of Zhangjiakou Prefecture resulted from the carrying out of the spirit of the Hebei Work Conference that the Central Committee convened last July, and of the work conference convened by the Provincial CCP Committee in September, which aroused people's enthusiasm for socialism and their determination to do a solid job of production. All levels of leaders have changed their work styles, have immersed themselves in realities, have gone in big for investigation and study, have adhered to the principles of seeking truth from facts, the mass line, and self-determination. They have adapted general methods to specific situations, provided tailored guidance, come to grips with key matter, placed emphasis on main points, have brought their thinking and their work in line with that of the masses, and have encouraged the broad masses of commune members to combat disasters to win a bumper harvest. They have resolved flatland farming programs, gaining the support of the masses thereby. They have resolutely and forthrightly instituted agricultural production responsibility systems, closely linking the responsibilities, rights, and benefits of the peasants and arousing mass enthusiasm for production to an extremely great degree. The turnout of workforces, draft animals and farm implements for spring sowing this year was unprecedented. Wanquan County, with workforces totaling 57,000 actually turned out 70,000 people. Turnout of draft animals and implements in the four flatland counties increased by 69 percent over last year. Formerly it had been one implement for every three draft animals, but this year many places had one plow per draft animal. This assured the smooth completion of spring plowing and sowing.

Recently the Zhangjiakou Prefecture CCP Committee diligently analyzed the current fine situation and called upon people throughout the prefecture to advance on the crest of victory to prepare for a 100 day war in field care in an effort to achieve the objectives of all-time highs in grain and oil bearing crop production and average per capita income. It put forward the following specific requirements. One was to take hold of crucial matters and take effection action to triumph over the two great disasters--the choking drought and early frost--the main attack being directed against victory over the choking drought. The second was all around intensification of field care, at the same time giving serious attention to major crops, the key ones being corn, gaoliang, millet, naked oats, wheat, paddy rice, potatoes, and flax. The third was both concurrent concern for the situation as a whole and for key points in the use of leadership forces, with strengthening of leadership in key grain producing communes and brigades (one-fourth the number in the prefecture), while at the same time giving needed technical and material support so that these communes and brigades could create new highs and climb new peaks. Also necessary was attention to low yield areas where high potential existed. Fourth was establishment of a concept of large scale agriculture and large scale grain production on the basis of a program of "positively no slackening in grain output with active development of economic diversification." While giving attention to field care of grain and oil-bearing crops, all around attention had to be given to farming, forestry, animal husbandry, sideline occupations, and fisheries, and to commune and brigade enterprises, as well as to commune household sideline occupations. Fifth was the need to use currently perfected agricultural production responsibility systems to triumph over the "two disasters" as a starting point and base point for catching up with and overtaking the all-time high, and to win a bumper harvest. All problems impairing current production in need of urgent solution had to be firmly resolved. Problems that did not greatly impair current production or problems for which there were no methods of solution at hand, were first investigated and studied.

In order to achieve the goals of "exceeding all-time highs," and so that everyone in the prefecture will know and act, the wisdom and efforts of all being pooled, the Zhangjiakou Prefecture CCP Committee issued an "Advisory to People Throughout the Prefecture" to stir discussion among the people of the prefecture and counties, communes, production teams, and households to analyze the present, to look at the year as a whole, to give attention to crucial matters, to focus on main points, and to strive for a bumper harvest.

9432
CSO: 4007/474

IMPORTANCE OF SELECTING, KEEPING SEED WHEAT EMPHASIZED

Shijiazhuang HEBEI RIBAO in Chinese 3 Jun 82 p 1

[Article: "All Jurisdictions Should Emphasize Doing a Good Job in Seed Wheat Selection and Retention, Comrade in Position of Responsibility in Provincial Bureau of Agriculture Emphasizes in Conversation With Correspondent"]

[Text] Recently a comrade in position of responsibility in the Provincial Bureau of Agriculture talked to the newspaper correspondent about selection and retention of wheat seed. He asked that all jurisdictions give attention to the job of selecting and keeping wheat seeds as an important matter in the current summer harvest. He specifically raised the following several points:

1. A good job of comparison and appraisal of wheat varieties. All wheat producing counties and communes are to organize leadership cadres, technical personnel and old peasants to participate in appraisal and selection groups for the purpose of making a one-time comparison and appraisal of wheat varieties. This will be used as the basis for formulating ideas on development of varieties and crop patterns for varieties in the local county and commune, and for making specific arrangements for selection and retention of seeds. New varieties that have already been appraised by appraisal committees as producing consistently high yields, and as being strongly resistant and of good quality need not be reappraised, but rather high powered reproduction should be organized for rapid popularization.

2. The importance of and knowledge about selection and retention of seed wheat should be vigorously publicized to arouse the initiative of commune members to select and keep seeds and to increase the scientificness of selection and retention of seeds by commune members. Production teams should properly provide for the organization of workforces to get rid of mongrel breeds and inferior plants in seed fields while the wheat is in the stage of waxy ripeness. They should also harvest, thresh, and store varieties separately, selecting and retaining seeds sufficient to meet needs of this fall's wheat planting plans and crop distribution requirements. Communes and brigades practicing the fixing of output quotas on a household basis should use appraisal and selection to designate specialized households for retention of seeds, and solve real problems in selection and retention of seeds. They should devote particular attention to solution of problems of preferential prices for fine varieties so that households holding seeds will be able to

show some profit. State-operated seed multiplication farms and units charged with tasks to produce stock seeds should select and retain sufficient seeds required by each seed plot in accordance with requirements for matching and pairing of the "three seed-plot. [the plots for growing the sterile, sterile-free, and restorer lines needed for producing hybrids?]

3. A good job of distribution and interchange of improved varieties. For disaster area communes and brigades that lack seeds and for communes and brigades in which hybrid varieties have seriously regressed or where crop patterns have been inequitable and a change of seeds is required, communes and counties should make concrete arrangements, linking up with communes and brigades having surplus seeds and signing agreements for the exchange of fine varieties. Counties hard hit by disasters should also persevere in a spirit of self-reliance, locally preparing fine wheat varieties. If a county is genuinely unable to take care of its own needs, this should be immediately reported and the prefecture asked to help arrange a solution. When prefectures lack resources themselves to solve the need for varieties, they should so report to the province, and the province can centrally balance interexchanges among prefectures of fine varieties.

4. A good job of fine variety farming. All levels of seed units should appoint specific people at wheat propagation bases responsible for doing a conscientious job of eliminating mongrels and inferior varieties, for separate harvesting and threshing of varieties, and for making all arrangements preparatory to purchase and storage. In order to prevent blind action that results in overstocking, communes, brigades, and peasant households must be wide-rangingly stirred to sign agreements to supply fixed amounts. Seed companies can provide suitable remuneration to commune and brigade purchasing and marketing personnel on the basis of quantities fulfilled.

5. Active launching of choice process of wheat seeds. All levels of farm departments are to carry out a one time inspection and repair of existing processing machines used for selection of choice seeds. In addition to fine varieties chosen and processed by seed companies, the advantages of choice selection and processing should be vigorously publicized so that communes, brigades, or peasant households will actively serve in the choice selection, processing, and retention of seeds.

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BRIEFS

HEBEI PREFECTURE WHEAT HARVEST--Xingtai Prefecture reaped a harvest of wheat despite a drought condition for the 5th consecutive year. Although the wheat field area was some 400,000 mu less than in 1981, the total output still reached 970 million mu, about 1.5 percent more than last year's. Thirteen of the 18 municipalities and counties in the entire prefecture have increased output and 4 counties have a total output of 10 percent more than 1981's. [Excerpt] [Shijiazhuang HEBEI RIBAO in Chinese 6 Aug 82 p 2]

HEBEI HOG RAISING--Shijiazhuang Prefecture maintains a normal ratio of sows as a basic condition for developing hog raising in the province. At the end of 1981, there were more than 1.7 million head of hogs in inventory. This figure represents an increase of about 2.3 percent since 1949. During these 33 years, there have been 7 cyclical periods when inventories rose and fell. The last 2 cycles were first from 1976-1979 and second from the beginning of 1980. During the first 3 years of the 1976-1979 period, the inventory rate was down, and rose during the last year (1979). By the end of 1979, there were only 2.12 million head of hogs in inventory. Since the beginning of 1980, it fell to 1.78 million head. This reduction was mainly due to an imbalanced ratio of sows. [Excerpt] [Shijiazhuang HEBEI RIBAO in Chinese 6 Aug 82 p 2]

HEBEI SUMMER GRAIN PROCUREMENT--By 20 July, Hebei Province had accumulated and stored 1.45 billion jin of summer grain, overfulfilling its summer grain procurement quota. Of the 124 municipalities and counties in the entire province tasked with summer grain procurement, 103 have fulfilled or overfulfilled their summer grain procurement work. [Excerpt] [Shijiazhuang HEBEI RIBAO 24 July 82 p 1]

CSO: 4007/560

FIGHT AGAINST DROUGHT AND INSECT PESTS OUTLINED

Efforts in Songhuajiang Prefecture

Harbin HEILONGJIANG RIBAO in Chinese 30 Jun 82 p 1

[Text] "Resist drought and insect pests like fighting fire; bend every effort to resist both disasters." This is the demand made by the Songhuajiang Prefecture CCP Committee and government administrative offices to the broad masses of party members, cadres, and the masses throughout the prefecture. At the present time 700,000 people throughout the prefecture have been put to work on an emergency basis in the fight against drought and insect pests. They have already brought insects under control over a 7.78 million mu area, which is 88 percent of the area requiring control. Throughout the prefecture, streams have been dammed up, diversion ditches have been dug, and water raising points have been built temporarily in many places. Both newly built and existing pump wells are delivering water to irrigate 1.35 million mu in amelioration of the drought.

Since May Songhuajiang Prefecture has had little rain, high temperatures, and much wind. Throughout the prefecture the water level in major streams has drastically declined, and Lalin He, Ashi He, and Mayi He have virtually stopped flowing. Most small dammed ponds and small reservoirs have dried up. The drought stricken area presently covers an area of 12.6 million mu, which is 78 percent of the total cultivated area. This includes a 6.32 million mu area that is seriously drought stricken. In mid-May a general outbreak of adult borers occurred in the grasslands, and by 15 June they had begun to threaten some farmland. This year's insect pests are a rarity in the suddeness of their arrival, the large numbers of them, and the broad area they cover.

In the fight against drought and the eradication of insects, Songhuajiang Prefecture's method has been, first of all, to increase understanding to mobilize cadres and the masses throughout the prefecture to fight both disasters at once. As a result of propaganda and education, cadres at all levels and the masses have come to understand the threat that the grassland borers pose, and their serious attention has been aroused. The entire prefecture has substantially succeeded in action both to fight drought and to eradicate insects, has placed emphasis on protecting wetland and dryland crops by doing much scraping of the soil, turning of the soil and weeding, have fully tapped water sources for irrigation to save the crops and, where conditions permit, has seized the opportunity to irrigate and provide top dressings of fertilizer. Second, it has used a combination of indigenous and foreign methods for an assault on the insects. In addition to the pesticides and pesticide apparatus provided by the province, the prefecture has also sent people outside the province to buy more than 1,000 tons of pesticide, and more than 1,300 pieces of pesticide apparatus. Many counties and communes have also set to work with native methods, using human labor to catch insects. Some communes in Bayan County have resorted to sweeping, catching, tramping on, hoeing, and burying of insects, which has brought fine results. In addition, all jurisdictions have also given attention to scientific use of pesticides to make the most of pesticide effectiveness. Some places have also linked prevention and combat against disaster, uniting to eradicate insects, solving rather well the problem of insects moving from one place to another when "you control, but I do not."

Telephone Conference Held

Harbin HEILONGJIANG RIBAO in Chinese 30 Jun 82 p 1

[Text] On the evening of 29 June, the Provincial CCP Committee and the provincial government held a telephone conference to further mobilize people throughout the province to emergency action, and to exert all efforts to triumphing over serious drought and insect pest disasters to win a victory in the struggle against disasters.

Provincial CFP Committee Secretary and Deputy Provincial Governor Wang Luming [3769 6424 2494] noted, in the course of the conference, that the drought disaster has spread throughout the province and that in most places the dry layer of soil is more than 20 centimeters deep, the area of dead plants increasing daily. Wheat yields will be seriously reduced; as nearly 500,000 mu of wetlands cannot be irrigated. Forecasts call for no large rainfalls before 5 July and a deepening of the drought. Grassland borers have broken out over a wide area in great density, and the harm they have caused is serious, greater than that of 1980. Now they have spread to 53 counties and municipalities and to 72 farms. In heavily infested fields, soybeans were completely consumed within a period of 1 or 2 days. Monitoring reports say that since grassland borers are of different ages this year, the period of harm from young ones will be protracted. Aphid and cornborer outbreaks have also occurred in some places, one after another. In the face of this serious disaster situation, all jurisdictions are to further institute full party mobilization and arousal of all the people to persevere in winning the struggle against drought and insects to protect the crops.

(1) Strengthen confidence in resistance to disasters to win a bumper harvest. There must be further intensification of political ideological work to educate the cadres and masses to overcome a sense of hopelessness and war-weariness, feelings of passivity and pessimism, and a paralyzed psychology of trusting to luck and relying on heaven to send rain, to persevere in resistance to drought and elimination of insects so that there will be no let up in the fight against drought short of moderation of the drought situation, and no halt in insect control until harmful insects have been eradicated, losses from the disasters being reduced to the minimum.

(2) Full use of existing water conservancy projects and facilities and use of every available means to enlarge the effectiveness of irrigation. All available electric pump wells and water pumping stations must be put to use to irrigate the land and water the crops night and day without let up. Additional sources of water have to be developed and the potential of water sources tapped through full use of all kinds of watering devices to protect and rescue the crops.

(3) Do an effective job in the use of pesticides to eradicate insects and to control harm done by grassland borers. Monitoring and reporting has to be intensified and technical guidance buttressed. Early and late spraying is to be encouraged to increase results in prevention and control. Management of pesticides should be strengthened to prevent poisoning of people and livestock. Prompt surveys of aphids and cornborers should also be conducted for timely prevention and control of damage.

(4) Strenuous efforts in scraping and hoeing the soil to protect soil moisture to promote crop development.

(5) Prompt destruction of crops in aborted fields to make way for self-rescue efforts in production by communes and brigades hit by repeated disasters.

(6) Further strengthening of leadership in the struggle against disasters. Leadership comrades at all levels are to concentrate their energies and make every effort to lead the struggle against disasters to protect the crops. They are to organize all trades and industries for vigorous support to the struggle against disasters.

Persons in charge in Songhuajiang Prefecture and Hailun County briefed the conference on their experiences in combatting drought and eradicating insect pests to protect the crops.

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SUMMER PLANTING COMPLETED DESPITE DROUGHT

Nanjing XINHUA RIBAO in Chinese 6 Jul 82 p 1

[Article: Xuzhou Prefecture Fights Severe Drought In Effort to Overfulfill Autumn Quota"]

[Text] Xuzhou Prefecture cadres and masses have worked tirelessly to fight severe drought and are pledged to win a bumper harvest from this year's autumn crop.

Since June, rainfall in Xuzhou Prefecture has amounted to only about one-half the amount of normal years, and both Feng and Pei counties have had only about one-fifth the amount of normal years. Throughout the prefecture the party at all levels has organized a great awareness campaign to strengthen confidence and resolve among the broad masses of cadres and people to continue to combat the severe drought and win a bumper autumn harvest. In Feng County, where the drought has endured longest and where water sources are most lacking, the County CCP Committee used the reality of the fight against drought during the first half of the year to win a bumper summer harvest as inspiration for cadres and commune members to diligently summarize experiences, redouble their efforts, fight drought to the finish, and win a bumper autumn harvest.

Since June cadres and the masses throughout the county have used every available means to tap underground water sources. While devoting strong attention to the equipping of pump wells, they have repaired and flushed more than 1,000 wells, and have sunk more than 400 new machine pump wells and more than 11,000 hand pump wells. In addition to making full use of machine pump and hand pump wells to fight drought, Tongshan County has tapped water from subsiding mines in mining zones and waste water from mines. Shidun Commune in this county sank four new pump wells and newly equipped 70 pump wells, while at the same time using water from subsided coal mines. As a result the paddy rice area, instead of being reduced, was expanded by 5,000 mu. While combating drought to rush plant and protect the crops, Pei County fielded more than 300,000 people daily to carry, lug, and haul water enough for 90,000 mu of corn, more than 50,000 mu of sweet potatoes, and 50,000 mu of cotton. Cadres and the masses in Ganyu, Donghai, Xinyi, and Pi counties in the hill and mountain region devoted great efforts to digging down into rivers, to digging ponds, and to digging large mouth wells to combat drought and protect the crops. After more than 1 month's arduous struggle, as of 5 July the prefecture had managed to plant more than 2.4 million mu of paddy, nearly 2 million mu of corn, 1.88 million mu of sweet potatoes and more than 1 million mu of soybeans for virtual fulfillment of summer planting plans. In addition, it actively engaged in preparations to prevent waterlogging and intensification of field care.

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BUMPER SUMMER HARVEST REPORTED IN SUZHOU PREFECTURE

Nanjing XINHUA RIBAO in Chinese 6 Jul 82 p 1

[Article: "Suzhou Prefecture Summer Grain Yields Up by More than 400 Million Jin. Bumper Harvest of Wheat, Barley, Naked Barley, and Rape In Suburban Nanjing Counties"]

[Text] Following two consecutive years of reduced grain output, leaders at all levels in Suzhou Prefecture assiduously summarized the lessons of experience and took action to lead the broad masses of cadre and people to win an all around bumper harvest from this year's summer crop. Summer grain output totaled more than 1.9 billion jin, a more than 400 million jin increase over last year, and a 30 percent increase. This was a second all-time bumper harvest year. Rapeseed output totalled 300 million jin, up 27 percent from last year for a new all-time record. Currently Suzhou Prefecture is further arousing the masses to action to exceed quotas for the autumn harvest, concentrating energies on taking care of more than 5 million mu of paddy.

The four suburbs of Nanjing Municipality's three counties joyously harvested a bumper summer grain crop this year. Output of wheat, barley, and naked barley for the municipality as a whole totaled more than 570 million jin, a more than 30 percent increase over last year and a four percent increase over the all-time high output of 1980. Output of rapeseed totaled 66.86 million jin, a 40.2 percent increase over last year and more than the all-time high. Every one of the 77 communes in the municipality that grow mostly grain had increased outputs.

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SCIENTIFIC FARMING ADVANCES REPORTED

Nanjing XINHUA RIBAO in Chinese 5 Jun 82 p 1

[Article: "Rich Fruits of Province's Agricultural Technical Promotion Work Pile Up. Promotion of a Combination of High Yield Farming Techniques and Practical Mass Experiences"]

[Text] Since the institution of various forms of agricultural responsibility systems in rural villages throughout Jiangsu Province, a craze for the study of science and the use of science has broken out among the broad masses of peasants. In order to meet this new situation, the broad masses of agricultural science and technology workers in the province have actively promoted agricultural techniques to make an active contribution to development of agricultural production.

In recent years, Jiangsu Province has bred, introduced, demonstrated and promoted a group of fine variety farm crops, taking full advantage of the small amount of investment required, the quick results, and the remarkable increases in yields of fine varieties. In the case of hybrid rice introduced, the province has used a combination of experimentation, demonstration, promotion, and training, promoting both fine varieties and fine methods at the same time for their very rapid promotion for use throughout the province. During the past 3 years, the hybrid rice growing area has stood at around 10 million mu. Last year, yields averaged more than 800 jin per mu, more than 100 jin per mu more than yields from conventional varieties for an annual yield increase of 1 billion jin of grain. A group of new varieties of conventional rice, wheat, barley and naked barley, corn, cotton, rape, potatoes, peanuts, soybeans, and green manure crops have also made their appearance, and remarkable results in increased yields have been obtained from their promotion over a fairly wide area.

Agricultural science and technology units and agricultural units at all levels have given serious attention to the promotion of a combination of high yield cultivation techniques and mass experiences in farming. Experiments conducted by Suqian County in the use of biological energy to grow seedlings, Jianhu County hybrid rice three strain coherent matching techniques, Tangqiao Commune in Shazhou County's experiments in gaining high yields from "five struggles" with late crop wheat, Donghai County's farming experiences for bumper peanut yields, Taixing County's experiences in high yields from intercropping of corn, and the experiences of Jintan County in the use of underground ditches in wheatfields to prevent water stagnation have all been joint developments of skillful rural craftsmen and technicians, which after promotion for use have brought remarkable economic benefits.

All jurisdictions have also attached extreme importance to the promotion of farming techniques to combat disasters for consistent yields and increased yields. Water stagnation damage to wheat, barley and naked barley is one of the main reasons for the neither high nor consistent yields of wheat, barley, and naked barley in Jiangsu Province. Following many years of practice on the part of the masses and scientific and technical personnel, experience has been distilled that says, "for any given wheatfield, water should be capable of being drained from both ends through a combination of three kinds of ditches, the four sides being free and clear, with a combination of open and underground ditches so that water can pass both inside and outside." This has effectively brought under control the threat of the "three waters," and has been promoted over an area of more than 20 million mu throughout the province, thereby increasing yields of wheat, barley, and naked barley by 1.6 billion jin. In order to guard against low temperatures in early spring and frost freezes in autumn so that the cotton will form numerous bolls early, of fine quality and high yields, the province has promoted wide area use of the new technique of using plastic mulch to cover nutrient pots growing seedlings for transplanting. Last year this technique was promoted over an area of more than 5 million mu, and this year it has been expanded to more than 6 million mu. Such transplanting of cotton has increased ginned cotton yields by about 25 jin per mu, as compared with the direct sowing of cotton, for an earnings increase of more than 30 yuan per mu.

Pilot experiments that the Provincial Science Commission and the Agricultural Commission took the lead in organizing in the growing of wheat, barley, naked barley, paddy rice, and cotton on 100 mu continuous tract bumper yield fields have closely dovetailed scientific research with promotion, not only making pilot project site high yields even higher and turning low yields into high yields, but also effectively promoting balanced yield increases over wide areas, which has been heartily welcomed by the masses.

Results have also been heartening in the promotion of soil improvement through control of alkalinity through technical experiments in the rational use of chemical fertilizer and increased use of organic fertilizer. In Xuzhou and Huaiyin prefectures, through the promotion of water conservancy construction, large scale efforts in converting drylands to wetlands, the growing of green manure, and such all around control measures, 70 percent of a more than 6 million mu alkaline-saline land area has been brought under varying degrees of control. As a result of control efforts, per unit yields from mottled alkaline land in Lianshui County have been increased from the former 200 to 300 jin per mu to between 600 and 700 jin per mu. The province has also energetically popularized deep fertilization with nitrogenous fertilizer, concentrated fertilization with phosphate, follow-up leaf fertilization, and such economic fertilization techniques.

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BRIEFS

LIAONING SHEEP WOOL PROCUREMENT--According to figures provided by the provincial Supply and Marketing Bureau on 10 July, Liaoning Province has overfulfilled its procurement quota of sheep's wool by 15.4 percent with a total procurement volume reaching 9.23 million jin; about 20 percent more than the same period last year. [Excerpt] [Harbin LIAONING RIBAO 13 Jul 82 p 1]

CSO: 4007/548

SHANDONG

CONCERTED ACTION AGAINST CONTINUING DROUGHT URGED

Jinan DAZHONG RIBAO in Chinese 14 July 82 p 1

[Article by Commentator: "Unified Mental Perception For Strengthened Confidence in Resistance to Disasters--First Talk on Persevering in Combat Against Disasters So That the Autumn Will Compensate the Summer Harvest Shortfall To Win a Bumper Harvest For the Year As a Whole"]

[Text] During the previous period of time, all levels of the party organizations and the broad masses of cadres and people throughout the province made combat against drought the overriding central task in rural areas. With a dauntless spirit of making every moment count, they launched a struggle against drought to win very great achievements. However, the drought situation continues very serious, and the work of autumn sowing and field care has just begun. A more arduous and more strenuous struggle against drought to win a bumper harvest lies ahead. As a result of the protracted drought, in some of our cadres and masses a psychology of trusting to luck has arisen with fears of hardships and trusting the heavens to send rain. This has brought in its wake mental obstacles to continued combat against disasters. Therefore, we must unify perceptions and resolve that we will combat drought and combat disaster to the end.

This year's drought in Shandong Province follows 3 or 4 consecutive years of serious drought. Rarely has a drought been encountered that has covered such a wide area, that has been so pervasive, that has casued so much damage, and that has been so protracted. Between January and mid-May, only 65 millimeters of rain fell in the province. During mid-May most places experienced high temperatures and hot dry winds causing crop moisture to evaporate dramatically, the soil to lose moisture severly, the wheat to suffer from heat, and the spring seedlings to wither. During the past 10 days, though some rain has fallen in many places, this has not entirely solved the drought problem. Of course, while persevering in combat against drought, it is also necessary to make preparations to prevent waterlogging. It cannot be denied that serious natural disasters pose numerous hardships for us in winning a bumper harvest. However, it is also necessary to realize at the same time that we possess many favorable factors in the fight against drought and disasters. First of all, as a result of the implementation during the past several years of the CCP Central Committee's programs and policies on rural work, particularly the promotion of various forms of production responsibility systems, the mood of the broad masses of peasants has risen. As a result of all jurisdictions having summarized, perfected and stabilized production responsibility systems, and having given attention to correct handling of the relationship between "centralized" and "contracted," the initiative of both the collective and commune members for combating drought was brought into play, and development of farmland water conservancy facilities promoted. This will play a major role in assuring future struggle against drought. Furthermore, we have many years experience in combating drought to win bumper harvests. In 1980 we fought drought for a year to win a bumper harvest. In 1981, we again struggled for a year against serious drought to win a good grain harvest and a bumper harvest of economic crops. These experiences are very useful in guiding this year's struggle against disaster. It should also be realized that no matter how serious the drought, water resources in the Huang He in Shandong Province are fairly copious and that the more than 100,000 water conservancy projects that have been built since last winter have yet to show full effectiveness. Ground water also provides an untapped potential. In addition, the province's material foundation for fighting drought and disaster is also comparatively rich and industrial forces for the support of agriculture are fairly strong. As a result of consecutive years of bumper harvests, both the collective and commune members are relatively well off. Consequently, so long as we strengthen leadership, thoroughly arouse and rely on the masses, and fully utilize and bring into play these favorable factors, winning victory in the struggle against drought and disaster is entirely possible. Any pessimistic sentiments or psychological state of inertia in the face of adversity is harmful. We must overcome and eliminate them.

Combat against drought and disaster is both a major economic task and a major political task; it is currently the most important of important tasks and the urgency of urgencies in Shandong Province. All levels of party and government organizations and all trades and industries must be concerned for this overall situation, concentrate on, and serve this overall situation in planning their work. Leadership comrades at all levels must tell party members, cadres and the masses strictly according to the facts about the drought situation, the several possibilities in this year's agricultural production, and the measures that must be taken to achieve the best possibility so that inside and outside the party, from high and low, and from left to right there will be a unified perception and unified action. All party members, cadres, and the masses must be educated to have unshakeable confidence in combating disaster, to strengthen their concept of the situation as a whole, and to do a good job of uniting and helping each other, making contributions positively and with initiative in triumphing over serious drought. We steadfastly believe that so long as the entire province from top to bottom is of one mind and is persistent, even greater natural disasters can definitely be conquered to win a good harvest this year.

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SWITCH FROM RESERVOIR TO WELL IRRIGATION PLANNED

Jinan DAZHONG RIBAO in Chinese 14 Jul 82 p 1

[Article: "Rational Use of Water Resources To Promote Agricultural Development. Yantai Prefecture's Plains Communes and Brigades Gradually To Phase Out Reservoir Irrigation for Well Irrigation."]

[Text] Yantai Prefecture has summarized experiences with consecutive years of drought, and in the building of water conservancy for plains communes and brigades, it has gradually instituted a phasing out of reservoir irrigation in favor of well irrigation. Reservoirs are to be used for watering in the mountains, and wells for watering on the plains in order to make full use of water resources for promotion of agricultural production.

An overwhelming majority of the gravity flow irrigation projects that Yantai Prefecture has built over the years are located in plains areas. Because units located in irrigation zones along reservoirs, irrigation ditches, and rivers have relied on the opening of sluice gates to release water for irrigation, they have neglected development of ground water. Consequently, places (like plains) with abundant ground water have used water from water deficient places (like mountains and hills) to create a situation in which the greater the water shortage, the greater the waste of water. In order to change this state of affairs, the prefecture summarized experiences and decided to fully tap and use ground water. This means that plains area units will gradually phase out of reservoir irrigation areas, allowing reservoir water to be pumped and lifted to mountain and hill areas to solve their problems in getting water for use on farmlands, woodlands, and orchards.

Yantai Prefecture has more than 1,680 large, medium, and small size reservoirs capable of irrigating a total of more than 1.2 million mu of plains land. Under normal circumstances, figuring a 400 to 500 cubic meter per mu annual water requirement, a total of between 500 and 600 million cubic meters of water would be required. The Prefecture CCP Committee, government administrative offices and each county and municipality jointly determined that beginning now there is to be a planned sinking of wells and digging of ponds in irrigation areas located along rivers and reservoirs on plains for the development of ground water through adaptation of general methods to local situations. Annually about 150,000 mu of land is to be phased out of the reservoir irrigation system in a gradual phase out of 1.2 million mu from the plains irrigation system, the reservoir water being used to irrigate mountain and hill area farmlands, woodlands, and orchards.

In order to assure realization of this strategic measure, all counties and municipalities have begun to prospect along streams in reservoir irrigation areas under their jurisdiction and to make overall plans for projects to get water in accordance with the phase out of the irrigation area. Furthermore, units that are able or substantially able to rely on existing ground water projects to solve their water problems are to have supply of water gradually halted.

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AUTUMN EFFORTS TO COMPENSATE SUMMER GRAIN SHORTFALLS URGED

Jinan DAZHONG RIBAO in Chinese 20 Jun 82 p 1

[Article by Commentator: "Tap Increased Yield Potential to Insure That Autumn Harvest Will Make Up For Summer Harvest Shortfalls. Second Talk on Unflagging Combat Against Disaster So That the Autumn Harvest Will Make Up For the Summer Shortfall for a Bumper Harvest For the Year As a Whole"]

[Text] Autumn is the big season for agricultural production in Shandong Province, with both the area planted to grain and output amounting to more than 60 percent of grain output for the year as a whole. It is also in autumn that major economic crops such as cotton and peanuts are harvested, and when 80 percent of earnings from forestry, animal husbandry, sideline occupations, fisheries, and economic diversification are realized. Therefore, how good a job is done in autumn production has a bearing on the situation as a whole. This year, in particular, when there was a shortfall in summer grain production as a result of drought, a solid job of autumn production holds major significance for fulfillment of agricultural production plans for the year as a whole, for advancing development of the national economy, and for insuring the standard of living of the people. We should fully understand this point. It is necessary both to guard against and surmount feelings of war weariness occasioned by long combat against drought, and to guard against and overcome lack of confidence and passive feelings about increased yields from the autumn harvest occasioned by a lean wheat harvest. It is also necessary to comprehensively analyze the favorable conditions and the unfavorable factors in winning a bumper autumn harvest, to build up confidence, to take more action and strive to attain an autumn harvest that will compensate for the summer harvest shortfall, to make up for shortfalls in units hit by repeated disasters from units with bumper harvests, and to make up grain shortfalls through economic diversification. Only when everyone from top to bottom is of the same mind, and the wisdom and efforts of the masses pooled can there be great hope for fulfillment of grain and agricultural income plans for the year as a whole.

In launching an autumn campaign to increase output, most important is strict attention to grain production. This year the province's grainfield area has been reduced and a shortfall in wheat production has occured as a result of drought. The conflict between supply and demand of grain is a conspicuous one. We must direct serious attention to this situation and take vigorous action to strengthen summer sowing plan guidance, doing everything possible to plant more grain crops to make sure the grainfield area is fully planted. Consistently high yielding corn and sweet potato outputs are a major part of autumn grain crops, which account for more than 85 percent of the autumn grain growing area and output. General methods have to be adapted to specific situations, every effort made to enlarge the area planted to these crops, and efforts made to insure increased yields from them. Major efforts are to be made to promote intercropping to make the most of the soil's potential. Where conditions permit, economic crop fields may be appropriately intercropped with some grain crops so as to be able to harvest a little more autumn grain. The masses are to be mobilized for a major effort in active planting of "ten besides land" [Beside streams, villages, roads, houses, etc.] so long as they do not damage water and soil conservation, and for increased planting of melons, beans, and vegetables. "Early" must be the watchword in summer sowing, seizing time, and taking the initiative. Recently rain has fallen everywhere so planting must be rushed, 1 day early being a day and 1 mu more planted being a mu. Potential for increased yields through doing a good job of field care is also very great. The growing season for autumn crops is generally relatively short and room for maneuver small. Early and painstaking care must be given and scientific care practiced, including the thinning of seedlings, hoeing, giving top dressings of fertilizer, and controlling insects. How good a job is done, and how promptly it is done bears directly on the fullness of stands of seedlings, the vigor of seedling growth, the sturdiness of seedlings, and right down to bumper harvest. Promotion of advanced experiences should be well summarized, and potential for increased yields should be fully tapped. While devoting attention to grain and economic crops, economic diversification cannot be ignored either. Active work should be done in commune and brigade household industrial sideline production, the opening of avenues, the strengthening of guidance, and efforts to increase collective and commune member earnings.

The summer and autumn season is the time during which natural disasters of various kinds are concentrated, and we must base ourselves on combat against disaster to win a bumper harvest. Today, while combating drought, it is necessary to take the initiative in guarding against other kinds of natural disasters, particularly to prepare against floods and waterlogging. Shandong Province has had several consecutive drought years, so numerous units have not given sufficiently serious attention to the prevention of floods and waterlogging. Their mentality is paralyzed, and they are unprepared. Soon the flood season will be here and when torrential rains or floods suddenly occur, they will not know what to do, serious losses resulting. We must increase vigilance on this and persevere in a program of "taking prevention as the key link, prevention being better than cure" to make full preparations. This entails the clearing of drainage ditches, getting rid of obstacles that impede the flow of flood waters, and strengthening of river dikes and reservoir dams to assure a safe flood season. Monitoring and forecasting of winds, hailstones, diseases, and insect pests should be strengthened for prompt institution of preventive measures. In case of sudden outbreaks, it will then be possible to assemble manpower and resources quickly for prevention and control to reduce disaster damage, insofar as possible, to the minimum.

In short, use of autumn to supplement the summer by winning a bumper autumn harvest will be a hard fight. Cadres at all levels must stand in the forefront of the campaign to increase output and lead the broad masses of people to do the "three summer jobs" [planting, harvesting, and field care] in production solidly, to tap potential for increased output, and struggle to win a bumper harvest in agriculture for the year as a whole.

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SUMMER GRAIN PROCUREMENT PROCEDURES CONVEYED

Jinan DAZHONG RIBAO in Chinese 20 Jun 82 p 1

[Article: "Bolster Summer Grain Market Management To Assure Fulfillment of State Purchase Quotas. Provincial Industrial and Commercial Administration and Provincial Grain Department Issue Joint Notice"]

[Text] Recently the Provincial Industrial and Commercial Administration and the Provincial Grain department jointly issued "Notice on Bolstering of Summer Grain Market Management." The notice said that summer grain procurement work has now begun in Shandong Province, and in order to assure fulfillment of this year's summer grain state procurement quotas, to stabilize the market and stabilize grain prices, all jurisdictions are to assiduously carry out summer grain state procurement and market management work.

The notice required all jurisdictions to diligently apply the spirit of the provincial government's "Notice On A Good Job in this Year's Summer Grain Procurement Work." During the period of intensified state procurement of summer grain, counties should publicize the closing of summer grain markets. After the markets have been closed, no unit or individual may sell summer grain in the market. After production teams and individual commune members have fulfilled state summer grain procurement quotas, those desiring to sell grain at negotiated prices may sell it to local grain departments, and grain departments are to make purchases in accordance within negotiated price limits set by the province. Negotiated price summer grain required by state-owned businesses and collectively operated restaurants, as well as by individual food and beverage customers approved by industrial and commercial administration units, may get supplies at negotiated sale prices from grain departments subject to amounts in storage and in accordance with actual needs. Counties that have fulfilled state verified state summer grain procurement quotas are to promptly publicize the opening of markets. After markets have been opened, negotiated purchases and negotiated sales of grain and oil are to be under the centralized administration of grain departments, and no other departments or units may intervene. Unless authorized, it is not permitted to go into rural production teams and markets to buy grain or oil, much less is it permitted to profiteer from grain turnovers or make purchases for hauling over long distances.

The notice also required industrial and commercial administration units and grain departments everywhere to take the initiative for close coordination with relevant railroad transportation units for the bolstering of summer grain market management and inspection work. Any summer grain ferreted out is to be procured by grain units at list prices. Hoarding and profiteering, trafficing in grain and oil, jacking up prices, disturbing the market, speculation and profiteering, and such illegal conduct is to be resolutely struck down.

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FLOOD PREVENTION WORK UNDERSCORED

Commentator Urges Serious Efforts

Jinan DAZHONG RIBAO in Chinese 19 Jun 82 p 1

[Text] It has rained continuously in Shandong Province ever since the beginning of June. In most places the drought has moderated and in some places it is completely over. Forecasts call for a considerable amount of rainfall in most prefecutres of the province during this year's flood season. Right now rainfall is concentrated in the northwestern and southwestern parts of the province, and some places will be flooded and waterlogged during mid-summer. The flood season will soon be here. Positive action with strict attention to implementation of flood prevention measures to triumph over the flood and waterlogging disasters that may occur, to protect the bumper autumn harvest and to safeguard the people's lives and property is an extremely urgent and important task facing the people of the province.

During this year's flood prevention work, simultaneous with major efforts everywhere to launch struggle against drought, definite preparations must be made ideologically, organizationally, for projects, and for materials. However, inasmuch as all levels of leadership were preoccupied with fighting the drought during the previous period, many comrades turned their attentions to fighting the drought so they do not fully understand flood prevention and have not devoted sufficient attention to preparations to prevent floods. They have not taken vigorous action, and progress on some of the projects, flood prevention materials, and organization of forces has been slow. In places along the Huang He, in particular, large scale diversion of the Huang is continuing and has raised the water table. In some places there is continued construction of production embankments in the river shallows, which obstruct water flow. Thus, should torrential rains or floods occur, it would be extremely easy for accumulated waterlogging to turn into a disaster. Right now people throughout the province are doing everything possible to create conditions for a bumper autumn harvest. Moreover, diligent work in prevention of floods to assure safe passage through the flood season is a major action for winning a bumper harvest, so that the autumn harvest can make up for the summer harvest shortfall. If vigilance is relaxed and problems arise in flood prevention, the crops that cover the land will sink into a boundless sea of water with direct consequences for development of agricultural production throughout the province and for social order.

Therefore, we must increase understanding about the importance of flood prevention work, resolutely overcome a paralyzed mentality and a psychology of trusting to luck, "preferring to believe a flood may happen rather than that it will not," firmly implant a mentality of combat against great flooding and prevention of great waterlogging, and genuinely devote strict attention to flood prevention work.

Leaders everywhere must proceed from local realities to carry out at once discussion and study of flood prevention work, organize forces for a general inspection before the advent of floods, and devote strict attention to solving existing problems. Leadership has to be strengthened and sufficient workforces made ready for an assault on the repair of hazardous projects. Prefectures along the Huang should immediately call a halt to diversion of the Huang and stop new construction or increasing the height of production embankments in the shallows of the Huang He. They should also open up entrances for water to pass through in accordance with regulations. Plains prefectures should also drain, in a planned way, water stored in brooks, and demolish large gates that intercept the flow of streams, give attention to restoring breeches in flood prevention dikes, open up ditches made of sticks, and clear away obstacles to the movement of flood waters. In the case of hazardous projects that cannot be remedied for the moment, emergency measures are to be diligently implemented for safe passage through the flood season with a tightening of defenses to assure safety. For all water conservancy projects including the Huang He, inland streams, and reservoirs, a flood prevention corps should be rapidly organized and sufficient flood prevention materials made ready to insure rescue needs. Responsibility systems are to be instituted at every level. Leaders at all levels engaged in division of labor for flood prevention work are to earnestly rely on superior authority for instruction, take urgent action, and have a firm grip on implementation of measures. During the flood season emergency period, on-site direction should be done and every effort made to assure that no problems arise during the flood season so as to win an all-around victory in the flood prevention struggle.

Flood Prevention Conference Held

Jinan DAZHONG RIBAO in Chinese 19 Jun 82 p 1

[Text] On 17 June the Provincial Drought Combat and Flood Prevention Command held a command conference that asked all jurisdictions to overcome a paralyzed mentality and come to grips with implementation of various flood prevention measures to meet head on the floods that may possibly occur.

The conference was presided over by Provincial CCP Committee Secretary and Deputy Governor Comrade Li Zhen [2621 2182]. Deputy governors Zhu Qimin [2612 1142 3046] and Zhu Zhenxing [0719 2182 5281], as well as individual deputy commanders and leading members attended the conference.

At the conference, the Provincial Water Conservancy Department, the Huang He River Affairs Bureau, and the Provincial Meteorology Bureau individually reported back on the current status of flood prevention preparations and the meteorological outlook during this year's flood season. They unanimously agreed that the several most recent rainfalls have moderated the drought in most of the province's prefectures. The flood season will soon be here, so all jurisdictions should proceed from realities and places that have had much rainfall in particular, should turn their major efforts toward flood prevention work. In places where the drought situation is not completely over, both continued efforts should be made to combat drought, and active preparations should be made to prevent floods. There should be no paralyzed mentalities or trusting to luck. Where drought exists, drought should be fought; where floods exist, there should be prevention of floods, everyone basing themselves on combat against disaster to win a bumber harvest.

The conference noted that during the previous period all jurisdictions had already done a certain amount of work of flood prevention. However, these are woefully inadequate for defense against the great floods that may occur. Cadre and mass mentalities are paralyzed; the pace of projects to get through the flood season is slow; no flood prevention corps has been put in place; and material preparations are inadequate. Were torrential rains and floods to occur suddenly, they would be caught unawares.

The conference stressed that flood prevention work bears on the overall circumstances of the national economy and on the safety of the people's lives and property. All levels of CCP committees and government must genuinely strengthen leadership of this work, overcome paralyzed mentalities, take a firm grip on implementation of measures, their thinking proceeding from the very worst possible situation while striving to achieve the very best possible situation so that they will be prepared for rain whether it rains or not, and will think in terms of large rains rather than small rains. All jurisdictions are to conduct at once a diligent and comprehensive inspection of flood prevention work, to institute level by level responsibility with individual responsibility being designated, rapidly institute a flood prevention system, rely on instructions from above in division of labor, conscientiously solve existing problems, arouse the masses for an assault on the repair of projects to get through the flood season, take firmly in hand the reclosing of breeches in flood prevention dikes, clear away obstacles to the water, organize a flood prevention corps, prepare sufficient amounts of rescue materials, and make all preparations to meet a large flood head on. By way of inspecting flood prevention preparedness, the conference stipulated the organization of four flood prevention inspection teams led by three department and bureau directors who recently arrived in the key areas of northern Shandong, southwestern Shandong, and south central Shandong to inspect, supervise, and spur along, helping all jurisdictions rapidly institute various flood prevention measures in order to triumph over the flood and waterlogging disasters that may occur and win a bumper autumn harvest in agriculture.

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IMPETUS GIVEN FARMLAND WATER PROJECT RESPONSIBILITY SYSTEMS

Jinan DAZHONG RIBAO in Chinese 14 Jun 82 p 1

[Article: "Good Use of Water Conservancy Facilities To Make War Against Drought More Effective; Yanggu County Summarizes and Promotes Water Conservance Management Responsibility System"]

[Text] Yanggu County has summarized and promoted water conservancy management responsibility systems to make full use of the role of farmland water conservancy facilities and expanded their effectiveness in combating drought.

After most brigades in this county instituted responsibility systems of fixing output quotas on a household basis with households assuming full responsibility for task completion, some cadres were fearful that fields had been divided into too small plots and that farmland water conservancy facilities could no longer continue to be used to benefit. Following thoroughgoing investigation and study by the county, the experiences of representative units were summarized and promoted. After Litai Commune instituted production responsibilty systems, it also established a water conservancy facilities management responsibility system. In cases where pumping stations, bridges, culverts, and sluice gates, underground conduits, and such trunk projects cut across commune and brigade jurisdictions, persons were designated responsible for management. Wherever a trunk ditch crossed a field for which a household was responsible, responsibility for its maintenance, for leveling of the land, and for field projects was contracted by the household. In addition, depending on the situation in individual brigades, a system was adopted whereby existing water conservancy machinery was owned by the collective and its use centrally administered, brigades owning it with its management being done by teams and its use being contracted to individuals fees collected on a per mu basis. This made full use of the role of water conservancy machines. Throughout the commune, the in-operation rate of pump wells, and benefits derived from individual wells generally increased, and the effectively irrigated cultivated land area rose to 98 percent. Formerly, when everybody "ate out of a large common pot" in the management of labor at Lufang Brigade in Shimensong Commune, three of seven pump wells were filled with silt, and only a few machines were repaired regularly. Following institution of the responsibility system whereby responsibilities were assigned households on a large scale, not only did commune members restore to operation the pump wells that had been in a deep sleep for many years, but they also contributed their own money to sink 15 pump wells and to buy more than 30 diesel engines and electric motors, and they cleared debris from 8 li of trunk and branch ditches. These water conservancy facilities showed their mettle during this year's struggle against drought. In the process of spreading this representative experience, the County CCP Committee and county government directed attention to consultation among commune and brigade cadres and the masses with no "arbitrary uniformity," and no "formalism," genuinely helping communes and brigades as well as peasant households solve concrete problems in the management of farmland water conservancy. In addition to sending 45 technicians from water conservancy departments into the countryside to provide guidance, the county also provided management technicians to each commune, and gave energetic support in the maintenance and repair of equipment. During this spring's struggle against drought, throughout the county all kinds of farmland water conservancy facilities played a role so that irrigation could be maintained on more than 80 percent of the watered area. Three hundred fifty thousand mu of wheatfields were watered three times, and a good harvest reaped from them. Most cottonfields were irrigated to insure full stands of sturdy seedlings. The broad masses of people said that to have such a good harvest in a disaster year resulted from the encouragement that production responsibility systems provided and the help of farmland water conservancy facilities.

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TECHNIQUE OF SUCCESSIVE CROPPING OF WHEAT, COTTON DESCRIBED

Jinan DAZHONG RIBAO in Chinese 21 Apr 82 p 3

[Article: "Put Into Effect Double Cropping of Wheat and Cotton and Increase Economic Benefits"]

[Text] Linyi County's carrying out the cropping experiment of producing both wheat and cotton crops on the same field in one year has achieved remarkable economic results after being popularized throughout the entire area, thereby opened up a new path for developing cotton production.

Under the direction of state planning, this county faces the new problem of how to guarantee a continuous increase in the grain production and cotton production simultaneously so as to increase economic benefits. Under the leadership of the county central committee and the county government and with the support of the concerned departments at the upper levels, the county's agricultural science institute, proceeding according to the actual situation and beginning in 1979, has carried out an experiment of changing the spring sowing of cotton to summer sowing, then and from single cropping to double cropping of wheat and cotton within the same year. Three years of this experiment have proved that putting into effect a system of having two crops and two harvests in the same year, one each of wheat and cotton, has remarkable economic results. Last year, we sowed summer cotton on 40 mu of experimental fields, on which our 1st crop, of wheat, yielded 712 jin per mu; we then grew cotton, which yielded 121 jin per mu of ginned cotton. Throughout the county the demonstration of this technique was extended to cover 2,834 mu, on which the 1st crop of hweat yielded an average of 426 jin per mu, and the summer cotton yielded an average of 103 jin of ginned cotton per mu.

In order to put into effect this system of growing one crop of wheat and one of cotton in the same year, it is necessary to do a good job of pairing good varieties. The varieties of summer cotton must possess the characteristics of a short growth period, early ripening, and high yield and superior quality. The county's agricultural science institute, following only 2 years of the experiment, was able to screen an excellent variety that adapts well to the local condition--"zhongmiansua No 10 cotton." This variety is sown during the first third of June, the bolls open at the end of September and it is harvested at the end of October. The growth period only lasts 140 days, and it possesses the excellent characteristics of early flowering, quick boll formation, with few spindle branches, and tight and dense stem types, appropriate for close planting, little effected by insect pests and diseases, and easy to manage. Not only does it produce a comparatively large quantity, but the quality of the fibers is comparatively good. The Beijing Fiber Inspection Station and the Jinan national Cotton Mill No 4 have already woven on the trial basis into 32-count yarn; th- quality standard was as high as 2,700 fen, and the fiber length was between 29 and 31 mon. The variety of wheat that it was paired must be sowed at the end of October or the beginning of November, and is harvested at the beginning of June. Two years of experiments have demonstrated that the wheat variety #767-57 possess the excellent characteristics of late sowing, early maturing, high yield, and good quality, and at present is a rather good variety for being paired with cotton for double cropping.

Linyi County's experimental system of the successive cropping of wheat and cotton is obviously superior. It has changed the area's planting structure for food grain and cotton production, is good for solving the contradiction of food grains and cotton being in competition for land, has yielded comparatively good economic benefits, and is enthusiastically welcomed by the masses. This year, the county as a whole plans to plant over 100,000 mu of summer cotton.

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COMMENTARY ON PRESENT, URGENT NEED FOR MORE FARM MACHINES

Jinan DAZHONG RIBAO in Chinese 19 Apr 82 p 2

[Commentary: "Under the New Economic Circumstances, Do a Good Job of Farm Machines Supply Work"]

[Text] The work of supplying farm machinery is an important component part of the entire enterprise of agricultural mechanization, a link and bridge for combining industrial and agricultural production, and a logistics department in the direct service of agricultural production. Actively doing a good job of supplying farm machinery and its spare parts has extremely importance significance concerning the rate of the arrival and condition of the machinery, its utilization rate, bringing the effects of agricultural mechanization into full play, and promoting the development of agricultural production.

The work of supplying agricultural machinery must maintain the direction of socialist management, adhere to the general guiding principle of "developing the economy and protecting supply," and firmly establish the viewpoing of serving agricultural production. At present, the total motive power of our province's farm machinery has reached over 20 million horsepower, distributed among all the communes and brigades, and families and households in the rural areas. The supply of farm machinery involves a broad area, and large quantities; and the task is both arduous and glorious. Doing everything we possibly can to guarantee supply is the direction of our work in supplying farm machinery, and is also the minimum requirement. Experience proves that if only to persevere in proceeding in everything, on the basis of the needs of agricultural production, and overcome the attitude in management of making an all-out effort when there is much profit, working less diligently when there is little profit; and not at all when there is no profit; will we be able to do a good job of supply work. If we pursue only high profits for the enterprises, then the tendency to fear overstocking and not to fear selling out, as well as that of not paying enough attention to quality, is sure to appear. This will have a negative effect on agricultural production, and ultimately cause the enterprise of agricultural mechanization to suffer economic loss. Our placing importance on the quality of the agricultural machines produced will have a bearing on the whole question of whether or not the work of supplying farm machinery will be able to maintain the viewpoint of production and the viewpoint of the masses. We definitely must set up a sound organizational structure for quality control, assign quality control personnel, strictly check on quality and ensure that the quality of the products is up to the standard required for their being bought and sold, conscientiously implement the policy of the "three guarantees" for agricultural machinery products, and thoroughly fulfill our responsibility with respect to the products to be marketed.

After systems of responsibility for agricultural production were put into effect, the objective of the service of supplying farm machinery underwent a great change, and it had to serve both the collective and all the individual families and households. The masses' need for farm machinery also underwent a change, and the different areas and units all required different types, specifications, and models of farm machinery. Areas where conditions were comparatively good required an increase in large and medium-sized machines, and a large number of areas required an increase in the supply of small machines and semimechanized farm implements. In the past, agricultural machinery products were produced and distributed to the various levels according to a single, unified plan and, whether good or not, all were needed. Nowadays the peasants have acquired the right to take the initiative with regard to production, and what, when, and how much is to be sold are all determined by the peasants themselves. These new circumstances all pose new requirements in the work of supplying farm machinery. Since the beginning of this year in particular, due to the continuous improvement of the rural economy, the enthusiasm of the collectives and commune members to improve production is at an unprecedentedly high level, and the momentum of the increase in the quantity of farm machinery sold is comparatively obvious. If we want to accomplish the guaranteeing of supply, then we must step up our investigation and study, adapt our supply measures to local conditions by selling the various agricultural machines and tools precisely where the specific markets for them are, and satisfy the masses' needs. At the same time, we must improve our management practices, and improve the quality of service. In everything we do, we must proceed from the basis of what is beneficial for production and convenient for the masses; persevere in developing the effective supply methods of ordering goods in advance, supplying goods by telephone, sending goods into the rural areas, working day and night shifts, giving demonstrations on the spot, and providing mobile guidance, maintainance and repairs and make a great effort to develop supply and technical service activities. We must carry out a civilized managerial style, by treating our customers courteously, provide excellent quality service, and accommodate the masses.

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FARM PRODUCTION MATERIALS IN SHORT SUPPLY

Jinan DZZHONG RIBAO in Chinese 18 Apr 82 p 3

[Article: "A Look at the New Characteristics of This Year's Argicultural Production Materials Markets"]

[Text] In our province a new aspect of the continued, large-scale rises for agricultural production materials has occurred in the market. Sales volume for the first 2 months of this year is also 30.9 percent higher than for the same period last year. Included in this, machinery for spraying pecticides and plastic film for agricultural use increased by 90 and 50 percent respectively; chemical fertilizers, and medium- and small-sized farm implements increased by 30.4 percent; the quantity of farm chemicals, iron wire, diesel oil, and sold also increased by quite a lot. This is something that has not happened for many years. However, from the point of view of the present situation of the production, supply, and marketing of agricultural production equipment, there are still many problems. Market characteristics for some of the principal commodities are:

The market for phosphate fertilizers has become brisk; this high-quality production is in great demand. In recent years, following the development in agriculture of scientific methods, of tilling the soil, surveying the soil, and applying the fertilizers, in the various areas there everywhere occurred the problem of the composition of the soil having a serious lack of phosphates. Although the quantity of phosphate fertilizer that has been supplied in the first season of this year has increased by nearly 50 percent compared with last year, nevertheless from the point of view of the situation of the [quantity of] fertilizer needed by the various areas and the sources of the commodity controlled by the commercial departments, our province's production of high-quality phosphate fertilizer this year will far from meet the needs of agricultural production.

The quantity of small- and medium-sized farm implements required has risen dramatically, and some items are in extremely short supply. Following the implementation of systems of production responsibility in agriculture, the quantity of small- and medium-sized farm implements needed in rural areas increased remarkably. In particular, every family and household wanted to acquire more hoes, sickles, shovels, pickaxes, drills, harrowing and dragging plows, pitchforks, baskets, brooms, wooden winnowing spades, etc. As a result, the quantity supplied in the first two months of this year has increased 30.4 percent over the same period last year. However, the present situation of the supply demands of the various locations throughout the province indicates that there is a short supply of some major brands and varieties, and some brands are not up to standards. There are gaps in the demands and the availability, and the needs of production cannot be met. In particular, the need for hoe blades and hoe hooks cannot be met. The major cause is that these products must be forged by human labor, and their production requires much labor, and a high outlay of materials, with little profit. We must adopt measures as soon as possible to realize the mechanization of agriculture.

Sales of thin plastic film for agricultural use have gone from slow to brisk, with supplies getting tighter by the day. Since the beginning of spring, the quantity of thin plastic film for agricultural use needed for raising seedlings for cotton and flue-cured tobacco has grown larger and larger. Last year, over 10,200 tons were supplied to the entire province, and this year the estimated required supply will be over 12,000 tons. Based on arrangements contained in the state's plans, this year the commercial departments must purchase 6,340 tons from industry. For the first three months of this year however, due to all kinds of causes industrial production has simply not turned the goods over to the commercial department. Although the supply and marketing department has imported over 7,000 tons from outside the province, that is still not enough to change the tight market situation. Hereafter we must get a good hold on production as soon as possible, and do a good job of solving the problems of planned allocation and supply, within our province.

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BRIEFS

AGRICULTURAL MACHINERY ENTERPRISES--Following the establishment of all types of systems of production responsibility in the countryside, over the last few years a new aspect has appeared in the development of the enterprise of agricultural machinery in our province. Total motive power of farm machinery provincewide is over 20 million horsepower, an increase of more than 6 million horsepower over 1978. Characteristics of the development of agricultural machinery are: the demand for hand-support tractors and small-sized irrigation and drainage machines increases by a big margin; the ratio for an increased demand of the processing machinery for agricultural and sideline products clearly on the rise; the quantity of the farm machinery in the economically better off prefecturss, such as Yantai and Weifang is steadily rising; and a "farm machinery fever" has started in the four areas of the northwest where the economic foundation originally was poor. At present, throughout the province as a whole the area farmed by tractor has increased by over 240 million standard mu compared with 3 years ago; the area plowed by machine has increased by over 12 million mu; the area in which wheat is sown by machine has increased by 60 percent; and the area which is harvested by machine has increased 2.1 times. [Text] [Jinan DAZHONG RIBAO in Chinese 19 Apr 82 p 2] 9634

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AGRICULTURE

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I. GENERAL INFORMATION

EARLY CONTROL OF RURAL INDUSTRIAL POLLUTION URGED

Beijing ZHONGGUO NONGMIN BAO in Chinese 15 Jul 82 p 1

[Article: "Earliest Action Must Be Taken To Control Rural Industrial Pollution, City and Countryside Construction and Environmental Protection Office Officers-in-Charge Point Out"]

[Text] The correspondent has obtained the following from the City and Countryside Construction and Environmental Protection Office. Environmental pollution currently shows a tendency to spread from the cities to rural villages in China. Officers-in-charge at this office pointed out that Suzhou Prefecture in Jiangsu Province was once a storied "land of fish and rice," but with the development of rural industry during the past several years, the waters of the network dominated by the Grand Canal have become polluted. Some places have been polluted by wastes from electroplating to the extent that their farm and aquatic products cannot be eaten. Shaoxing County in Zhejiang Province, with its green mountains and clear waters, has been seriously polluted by the effects of printing and dyeing, electroplating, and paper making plants. Nationally many rural industrial enterprises still lack facilities for the prevention and control of pollution, and frequently one small plant may pollute a river or a village or town. In many places, large and medium size industrial plants consign or transfer to commune and brigade industries for use in production the toxic and dangerous goods that they do not want to produce or process, leading to the toxification of the "country-side." Such a shifting of pollution not only harms the physical health of the broad masses of peasants, but as a result of the pollution of agricultural products, it returns to harm urban residents. Once rural villages become polluted, the investment required to clean them up is higher and difficulties greater. Therefore, effective action must be taken earliest to bring it under control.

The officer-in-charge at the City and Country Construction and Environmental Pollution Office strongly emphasized that the key to effective control of rural industrial pollution lies in all levels of the people's government conscientiously carrying out the pertinent regulations and the spirit of "Decisions on Further Intensification of Environmental Protection Work During the Period of National Economic Readjustment," and "Various Regulations on Commune and Brigade Enterprises Carrying Out National Economic Readjustment Programs," issued by the State Council, strengthening of leadership in rural industrial enterprises, and taking a firm grip on the following several tasks:

1. Need for Equitable Distribution. The building of environment polluting enterprises is not permitted upwind from cities and towns, living and residential areas, water source preserves, famous antiquities, scenic tourist sites, warm springs, convalescent areas, and nature preserves. Where such have been built, regulations are to be formulated to bring them under control within a limited period of time. Where no solution is possible, they are to be closed, suspended, merged, or retooled.

2. Strict Enforcement of the "Three Concurrent" Regulations. For all newly built, converted, or expanded enterprises, or enterprises retooling their production, pollution control equipment must be designed, built, and start up concurrent with the main project. Projects, lacking equipment to control pollution may not be constructed or, if constructed, they may not go into operation.

3. Need To Readjust Product Composition. Industries that are of low toxicity or non-toxic and that do not pollute or only slightly pollute the environment are to be advocated, and production that uses everything is to be encouraged. The practice whereby large and medium size industrial plants and cities pass off to communes and brigades for their production toxic and harmful products that they themselves do not want to produce or process is to be guarded against.

4. Reorganization of Existing Polluting Units. Clean-up action should be taken for the "three wastes" [waste gas, waste water, and industrial residue] in order to reduce pollution damage. Units that discharge the "three wastes" beyond nationally fixed standards are to be charged pollution discharge fees in accordance with regulations. For enterprises that waste large quanitities of resources and energy and seriously pollute for which no solution is available, in the course of reorganization they should be closed, suspended, merged or retooled. In addition, vigorous efforts should be made to promote comprehensive use of the "three wastes," and to promote the experiences of advanced units who protect the environment.

9432
CSO: 4007/493

EXHORTATION ISSUED ON RAINY SEASON AFFORESTATION

Beijing ZHONGGUO NONGMIN BAO in Chinese 22 Jul 82 p 1

[Article by commentator: "Firmly Grasp the Opportune Time To Afforest During the Rainy Season"]

[Text] The rainy season is a very fine season in which to plant trees for afforestation. Firmly grasping this favorable opportunity to do large-scale planting of trees for afforestation holds important significance for fulfillment of afforestation tasks for the year as a whole and for hastening the greening of the motherland.

China's forest resources are scant and very unevenly distributed, but throughout the country there are more than 1 billion mu of barren mountains and wasteland flats suitable for forests, as well as a large amount of unused land in the four besides [besides streams, roads, villages, and houses] where trees can be planted. We must carry forward the spirit of the foolish old man who moved the mountain, perserve in the planting of trees every year and afforestation in every season, and adapt general methods to local situations, taking every favorable opportunity to do large-scale planting of trees for afforestation as the only way in which to rapidly bring about the greening of the motherland and change the backward state of affairs in forestry with all possible speed.

During the rainy season when the soil is wet and humidity is high, the survival rate for afforestation is high. Areas of north and northwest China have been traditionally in the habit of afforesting during the rainy season. In these areas, the ratio of rainy season afforestation is very great in relation to afforestation for the year as a whole. Consequently, a good job of rainy season afforestation plays an extremely important role in fulfillment of afforestation tasks for the entire year.

The key to doing a good job of rainy season afforestation lies in solid preparation. The rainy season is short and strongly seasonal in character; it is necessary to do advance planning of forestlands, prepare the soil, grow seedlings, conduct technical training, arrange for worforces, and such preparatory work. Once the rainy season comes, opportunity has to be taken and concerted efforts made to finish the job; otherwise, a fine opportunity may be lost. This year the rainy season came early in North China, so in order not to miss the opportune moment, vigorous efforts to organize the masses have to be made to begin rainy season afforestation. In places in which the rainy season has not yet arrived, preparatory work of all kinds should be taken firmly in hand, and rainy season afforestation tasks assigned. All jurisdictions should do as in the case of springtime afforestation, devoting attention to rainy season afforestation now.

All levels of party and government leaders and departments concerned should strengthen leadership of rainy season afforestation and take a genuinely firm grip on rainy season afforestation. Leadership cadres have to fix work responsibility for individual tracts, and themselves lead the masses in the planting of trees for afforestation. Forestry policies are to be conscientiously implemented to stimulate the enthusiasm of the broad masses of people. Commune and brigade collective afforestation should carry out centralized leadership and centralized planning, with the adaptation of general methods to specific situations and distinction among different circumstances to put into effect various forms of forestry production responsibility systems that link results in afforestation to the calculation of compensation. Contracting may be done with commune and brigade forest farms, specialized teams, specialized units, or specialized households. Alternatively, contracting of full responsibility may be done on an individual household basis within rights, responsibilities, and benefits in contracting the transplanting of seedlings and insuring their survival clearly defined. At the time, individual commune members should be actively induced to plant trees for afforestation on privately retained mountains or in places designated by communes and brigades. A good job of rainy season afforestation also requires attention to science and emphasis on genuine benefits. A strict system of inspection and examination before acceptance has to be instituted to maintain quality and quantity so that every seedling planted survives and every tract afforested remains afforested.

In addition to doing a good job of rainy season afforestation, all jurisdictions should also make full use of the favorable conditions of soil friability following the rains to devote strict attention to readying the land in preparation for afforestation this fall or next spring. In order to consolidate results from afforestation, all jurisdictions should intensify forest trees protection and care and nurture of young forests.

9432
CSO: 4007/494

MORE COUNTIES BECOME PROSPEROUS IN COUNTRYSIDE

OW181435 Beijing XINHUA in English 0722 GMT 18 Aug 82

[Text] Beijing, 18 Aug (XINHUA)--A growing number of counties are becoming well-off in China's countryside, according to the Ministry of Agriculture, Animal Husbandry and Fishery.

According to information issued by the ministry following a national meeting on rural income, China in 1981 had 49 counties where annual peasant income from their collectives averaged more than 300 yuan for each person. There were 22 counties with such rural income level in 1980 and only four in 1979.

In recent years, China has adopted policies encouraging peasants to become prosperous by hard work. According to a sample survey of 18,500 peasant families made by the State Statistical Bureau, the 1981 per-capita income of the peasant, including income from the collective and domestic sidelines, was 67.3 percent over that in 1978. And in some areas peasant income doubled in 3 years.

Though the 49 top-earning counties account for only 2.3 percent of China's 2,100 counties, their example demonstrates that peasants in all areas, pastoral or mountainous areas or plains, can raise their income through hard work.

Nearly 11,000 production brigades had an average annual income per rural capita of 300 yuan from the collective in 1981. The number of such top earning brigades was almost double that of the preceding year.

Madoi County of Golog Tibetan Autonomous Prefecture in Qinghai Province, 4,500 meters above sea level, was the highest income earner of all counties in China last year. It increased the total number of its cattle and sheep at an average annual rate of 17.2 percent between 1979 and 1981.

In 1981 the herdsmen there delivered 150,000 newborn animals. Per capita income of the county's herdsmen derived from their collectives reached 475.3 yuan last year. The days when the herdsmen wore raw sheep skins all year round are gone. Most herdsman families have bought radios, sewing machines and carpets, and 96 percent of them have bank savings.

Last year, Tibet had nine counties where each person earned an average of over 300 yuan from the collective, the largest number of high earning counties in all China's provinces and regions. The prosperity of these counties is attributable to the state policies adopted to boost Tibet's economy. Included are: Exemption from taxes, increased purchase prices for livestock products and providing peasants and herdsmen with insecticide and free veterinary services.

Among the nine Tibetan counties are Gar County and Rutog County on Ngari grassland 4,000 meters above sea level and Yadong County in the Himalayas. Yadong County, with limited farmland, has expanded its timber industry in addition to engaging in agriculture and animal husbandry.

Nanhai County in the densely-populated Pearl River delta of Guangdong Province, with a population of 800,000, doubled its total industrial and agricultural output value in 3 years. Peasant income rose to the same extent. Since 1979, the county has expanded aquatic products breeding, silkworm raising, enlarged areas of sugar cane and other economic crops, and set up small labor intensive enterprises to produce fireworks, bamboo, rattan articles and other products. Income from small enterprises in 1981 accounted for 60 percent of the total income of rural collectives.

Collective accumulation funds are also going up. The rural collectives last year allocated 15 percent of their total income for expanded production and public welfare.

Meanwhile, the number of poor counties and rural collectives has dropped, according to the ministry.

CSO: 4020/162

COUNTRY EXPANDS DIVERSIFICATION OF RURAL ECONOMY

OW240205 Beijing XINHUA in English 1246 GMT 23 Aug 82

[Text] Beijing, 23 Aug (XINHUA)--Rural sideline undertakings are an increasingly important source of income for Chinese peasants and are providing employment for growing numbers of people.

Animal husbandry, forestry, rural workshops and other sidelines have expanded faster than crop cultivation in the past few years. Their annual output value went up 31 percent between 1979 and 1981, compared with the 11.5 percent for field crops.

"Only by increasing commodity production can the rural areas become well off," said Li Min, an official in charge of rural sideline undertakings in east China's Shandong Province.

For years after liberation, emphasis was put primarily on grain although the area of farmland per capita is limited. Yet there are rich resources for diversifying the rural economy on the vast expanses of mountains, hills, grasslands and inland and coastal waters. "The diversifications of the rural economy will enable the peasants to turn out more and a greater variety of commodities for sale," Li Min said.

The diversified undertakings have been made possible by the raised efficiency of the peasants following adoption of the responsibility system since 1979, Li Min said. According to agricultural departments, in many areas 20 to 30 percent of the rural labor force is being released from farm work, and this provides abundant manpower for expanding sidelines.

For instance, in Tonglu County of Zhejiang Province, 16,000 people are being drawn from farming to collective enterprises this year. This will bring the total number of people employed by the enterprises to 42,000, accounting for 30 percent of the rural manpower.

The present policy calls for unrelaxed efforts to expand grain production while encouraging other rural undertakings.

The Agricultural Bank of China is issuing 800 million yuan in low interest agricultural loans this year, specially for the construction of production centers devoted to rural sideline undertakings. In addition, much of the agricultural loans granted by provincial branches of the bank to rural collectives and peasants are also used for the diversification of the rural economy.

The rural sidelines are being expanded through two channels, collective and household undertakings.

Rapid progress has been made in expanding rural collective enterprises. At present about 30 million commune peasants, about one-tenth of China's rural labor force, are working in rural enterprises which include farm machinery workshops, chemical fertilizer plants, brick and tile kilns, textile mills, tailoring shops, shoe-making workshops, tea and fruit gardens and livestock farms. The enterprises turned out products worth 63,300 million yuan in 1981, roughly one-third of the total rural income from all sources last year.

In addition to the collective undertakings, the peasant families are raising more livestock, poultry and rabbits as domestic sidelines. Embroidery and arts and crafts are popular among peasant families in areas with such traditional skills.

With the diversification of the rural economy and the expansion of trade, townships with clusters of industrial workshops, processing mills, service trades as well as theaters and schools have come into existence in quite a number of people's communes or xiang (comprising several communes). On the Yangtze and Pearl River deltas and on the rural outskirts of Beijing and Shanghai, such small townships have sprung up in most of the communes.

Thus diversification of the rural economy is leading to a gradual change in the distribution of cities and towns in China. The new townships are becoming economic and cultural centers in the countryside.

Wang Yuchao, member of the Standing Committee of the Anhui Provincial Committee of the Chinese Communist Party, said that in Chuxian Prefecture of that province "over 30,000 young people are expected to join the rural labor force annually between now and 1990 in this area with a population of 3.3 million. They will find jobs in the countryside or in the small towns that have come into being, instead of drifting to the big cities," he noted.

CSO: 4020/162

ECONOMIC IMPORTANCE OF GRASS UNDERSCORED

Beijing ZHONGGUO NONGMIN BAO in Chinese 15 Jul 82 p 1

[Article: "North China Should Vigorously Grow Grass To Encourage Animal Husbandry To Promote Agriculture, National Grasslands Expert and Deputy Director Gansu Agricultural College, Ren Jizhou [0117 4949 0719] Suggests"]

[Text] Grasslands expert and deputy director of the Gansu Provincial Agricultural College, Professor Ren Jizhou, recently told the reporter that he believed that vigorous efforts to grow grass in North China, particularly in places having a fairly large amount of land, would both help development of animal husbandry, be beneficial to the promotion of agriculture, and would also gradually help bring about ecological balance.

Ren Jizhou said North China covers a vast area where conditions for the development of farming and the animal husbandry industry are fairly superior, but ground cover is scant; many drought disasters occur; and erosion is serious. If strengths are to be used to make up for weaknesses, simultaneously with the planting of trees for afforestation must come vigorous encouragement to the growing of grass. He said benefits from the growing of grass are numerous.

First, the grasslands are huge factories for fixing solar energy. The energy stored in organic material produced by the growing of grass throughout the world annually is roughly equivalent to the world's annual consumption of energy. This organic material greatly changes soil fertility and enriches the quality of life in the world. The organic material produced by grass is about two-thirds underground and one-third above ground. The underground portion can improve the soil, and the above ground portion makes very useful animal fodder and can be converted into mature livestock products. Gansu Province has more than 200 million mu of grasslands. Were they to be equitably used, the annual amount of meat produced would increase tremendously.

Second, grass is the ecological system's supplier of nitrogen. Pulses and pasture grasses can fix nitrogen from the atmosphere and convert it into organic matter. A single mu of alfalfa can fix about 30 jin of nitrogen in 3 years, the equivalent of almost 100 jin of ammonium nitrate. The amount of coarse protein contained in the portion of pulses and pasture grasses above ground is at least about 20 percent. This coarse protein may be directly used by animals. Thus is can be said that pulses and pasture grasses are the sources of life on earth. Many places do not devote sufficient attention to development of pulses and pasture grasses today, and this is a large problem deserving of great attention in agricultural production and for which diligent action must be taken to solve.

Third, grass plays a very great role in water and soil conservation. In places in the loess highlands with a rainfall of less than 500 millimeters, the capacity of grass to conserve water and soil is no less than that of forests. The ability of grass to soak up rainfall is virtually the same as that of forestlands. The ability of grass to bind together surface soil and prevent it from being washed away is somewhat better than that of forestlands. It can cause soil to form a granular structure that increases soil capacity to hold water. Grasslands have a far greater capacity to conserve water and soil than farmland. Many years' growing of dog's tooth grass, a member of the grass family, shows it to be 300 times more able than corn to conserve soil and water, and its ability to conserve water is about 1,000 times greater. Roots of pasture grasses that have grown for many years are about three times more numerous than from crops in general, and the area the roots cover may be from two to four times greater. The greater the area of root coverage and the larger the area of soil in contact with the roots, the greater the ability to conserve soil.

Fourth, grass greatly benefits environmental sanitation. Grasslands can absorb dust and reduce the amount of flying dust on the soil's surface. The ability of a thick growth of grass to prevent dust is more than four times greater than that of bare ground; it is strongly able to attract dust. It can purify the air, reduce environmental noise and pollution, and regulate air temperatures. Grasslands are like a thermostat in that the physiological function of grass itself causes the temperature of the grass not to rise beyond 20°C. The function of grasslands in lowering temperatures is remarkable in dry and desert areas. When sand surface temperatures reach 50 degrees, in the same area thick growths have a temperature about 10 degrees lower than the sand surface. Therefore, the more arid the place, the greater the need to grow grass.

Ren Jizhou noted that the growing of grass has to be done scientifically, the right seeds being planted in the right places, the emphasis on effectiveness. Right now most important is the taking of effective measures for positive action to win genuine results.

9432
CSO: 4007/493

FAMILIES SPECIALIZE IN LIVESTOCK, OTHER PRODUCTS

OW150758 Beijing XINHUA in English 1226 GMT 14 Aug 82

[Text] Harbin, 14 Aug (XINHUA)--More than 560,000 families specialized in raising pigs, poultry, rabbits, bees, sheep and other livestock have become an important supplier of meat, poultry, furs, skins and other products in China, according to a national meeting now in session in Harbin City.

These family undertakings are generally started by experienced peasants who have techniques and management skills, and therefore have a much higher productivity than ordinary peasant households. Some educated young people, as well as residents of city suburbs, housewives and retired city workers have also started such undertakings.

Unlike an ordinary peasant household which usually keeps a very limited number of livestock and poultry, a "specialized family" may raise dozens or even over one hundred pigs, or several hundred to over one thousand chickens.

The meeting pointed out that these "specialized families" have emerged in China following the implementation of new rural policies since 1979.

Suited to the production and management levels in China's rural areas, this form of management can better meet the needs of the growing market, the meeting noted. It is easier to run such family farms than large-scale, modernized livestock or poultry farms. This form of management is a step towards specialized and socialized production and has opened a new way for commodity production, the meeting said.

Apart from "specialized families," there are "key households" in the countryside which simply raise more animals and poultry than other commune members, while still participating in normal farm work. There are now 1.77 million such households in China's countryside.

Both these "specialized" and "key" families, totalling more than two million, are now raising more than 10 million head of livestock, 58 million poultry, 12 million rabbits and more than half a million beehives, according to figures released by the meeting.

Animal and poultry raising by "specialized families" shows many advantages, the meeting said. Following their example, ordinary households are encouraged to also take up the trade, and can begin quickly and easily.

Figures from Hebei, Shanxi, and other provinces show that the livestock and poultry farms of the "specialized families" have a high rate of marketable products. These families also help spread science and techniques in the countryside.

Both "specialized" and "key" families generally are not divorced from their collective units. They get fodder from the collectives or state grain stores and sell their products to the state.

These families have quickly increased their income. Zhao Huanshuang, a peasant in Shandong Province, set up a livestock and poultry farm on a nearby mountain. His family of four raises 470 geese, 50 chickens, 40 rabbits, eight goats, two cattle and five pigs, in addition to managing six hectares of mountain forests. He received 3,600 yuan in the first half of this year and is expected to earn a total of 7,000 yuan this year. After handing a certain sum over to his production team as public fund and deducting costs, his family income is estimated to reach 4,000 yuan in the year.

CSO: 4020/159

BRIEFS

FRESHWATER AQUATIC PRODUCTION--Beijing, 10 Aug (XINHUA)--China's total freshwater aquatic production in the first half of 1982 reached 500,000 dun, an increase of 7.1 percent over the same period last year. [Beijing XINHUA Domestic Service in Chinese 0113 GMT 10 Aug 82]

RURAL INCOME, SAVINGS--According to SHIJIE JINGJI ZAO BAO [WORLD ECONOMIC MORNING NEWS], the Chinese peasants' income in 1981 increased 67 percent over that in 1978. As of the end of April 1982, total rural savings had reached 24 billion yuan. The total amount of agricultural loans offered in the first 4 months of 1982 reached 35 billion yuan. [Shanghai City Service in Mandarin 2300 GMT 8 Aug 82]

NORTHERN RURAL CAPITAL CONSTRUCTION--An experimental project to improve animal husbandry on 286 million hectares of grassland in North China, an area nearly three times as large as all of the nation's cultivated land, is now underway. The $80 million project is being carried out by the state bureau of animal husbandry and the Agricultural Bank of China, which will administer a $35 million grant from the International Fund for Agricultural Development (IFAD). Unlike most large-scale projects, which are aimed at large, state-owned enterprises, the grassland project will focus on production brigades and individual commune members in 24 representative communes. "Eighty million dollars is not much money, considering the area involved," an official at the animal husbandry bureau told CHINA DAILY. The project will pursue different goals in different areas, depending on climate and other natural conditions, the official said. Despite some initial problems with management and with handling foreign investment, the project has gone smoothly so far, the official said. In the Kundu Commune of the Alukereqin League, Nei Mongool, for example, peasants have already completed 50 percent of the required fencing and tree planting, and 15 percent of the grass planting. Well drilling and construction of animal shelters will begin soon, the official said. [Text] [HK110233 Beijing CHINA DAILY in English 11 Aug 82 p 2]

IRANIAN AGRICULTURAL DELEGATION--Beijing, 22 Jul (IRNA)--An Iranian economic mission to the People's Republic of China, led by the undersecretary of the Ministry of Agriculture and Rural Development, Dr Abbassali Zali, visited several temples and pagodas in Beijing as well as the Forbidden City and the Temple of Heavenly Peace. The Iranian mission on Tuesday met the Chinese foreign trade and economic relations minister. The Chinese foreign trade and economic minister outlined China's agricultural and commercial status and reviewed appropriate areas in which to establish mutual cooperation. He referred also to China's extensive experience in certain agricultural and industrial fields. Then Dr Zali, in turn, referred to some measures taken after the victory of the Islamic revolution of Iran to remedy the economic havoc caused by the previous regime. The head of the Iranian mission also inspected the tractor manufacturing plants and machine works. [Tehran IRNA in English 1946 GMT 21 Jul 82]

CSO: 4020/162

PEASANT INTEREST IN AGROTECHNOLOGY INCREASES

OW230830 Beijing XINHUA in English 0738 GMT 23 Aug 82

[Text] Beijing, 23 Aug (XINHUA)--"Wherever we go, peasants come to seek our advice, in the office and the fields and even when we attend rural fairs," said Cui Huairang, who works in an agro-technique service station in Fengyang County, Anhui Province. A college graduate who has worked there for some two decades, Cui said agro-technicians "have never been so welcomed by the peasants."

Agro-technicians trained by colleges and regular secondary agro-technical schools are to be found in almost all the peoples communes of Anhui, Shandong, Zhejiang and other major agricultural provinces.

The agro-technique service center in Banqiao District where Cui Huairang works gave technical advice to 2,200 peasants in a 3-month period. The peasants often travel to a lecture on farming techniques from miles away, bringing their meals with them.

Today, radio has a special added value for peasants in China. They switch on their sets or monitoring loudspeakers in the morning or at meal time to listen to weather forecasts, information on harmful insects and plant diseases as well as knowledge about techniques for the current farming season.

Diffusion networks reach most peasant homes and the central broadcasting station in Beijing is running a teaching program for hundreds of thousands of peasants and junior agro-technicians in all parts of the country. In addition, every province and almost every county has its own broadcasting programs on agro-techniques.

Sun Guojun, head of the science education section of the Zhejiang Provincial Agricultural Department, explained why there was such a widespread keen interest in agricultural science. Under the responsibility system, he said, an estimated five million labor groups, peasant families and peasants in the province have signed contracts with production teams for farm production or sideline undertakings. Since they are directly responsible for the results, they are avid for scientific information.

"We do whatever we can to serve them, supplying them with books, lectures, films and pamphlets on agricultural science and other technical aid," Sun Guojun said. "But with millions upon millions eager to learn, our services still fall far short of demand," he said.

Thanks to the spread of scientific information, 90 percent of the rice, wheat and cotton seeds used in Anhui Province in 1981 were of fine varieties. Hybrid male sterile rice was sown on 140,000 hectares of land last year, increasing output by 160,000 tons.

In Anhui, 4,000 courses and training classes on farming techniques were given in 1981 with an attendance of two million. In all major agricultural provinces, such training classes are sponsored at the provincial, prefectural, county and commune levels.

A popular and effective way is demonstration families which voluntarily take the lead in using new seeds and new techniques in their contracted fields, guided by local technicians from sowing to harvest. With such examples at hand, surrounding peasants need not go outside their village to get ordinary technical questions answered.

At present, 52,000 of the nine million peasant households in Anhui Province are demonstrating scientific farming on 19,000 hectares. These families are called "a great supplement" to the insufficient local technical force, as the 3,300 communes only have 10,000 government agro-technicians.

Another channel for spreading agro-techniques is for agro-technicians to sign contracts with peasants to pass on methods of pest control, seed breeding and rice and wheat cultivation.

CSO: 4020/162

BRIEFS

PROVINCIAL AGRICULTURE--Anhui Province has done very well this year in agriculture, forestry, animal husbandry and fishery. The province's total summer grain output may reach 10.26 billion jin, an increase of 12 percent over the same period last year, and total rapeseed output may reach 1.9 billion jin, up 47 percent from last year. In the first 6 months of the year, the province afforested 1.29 million mu of land and planted 217 million trees around villages and houses and along roads and rivers. There were 3.6 million head of large animals in stock at the end of the first half year, 17.1 percent more than in the same period last year, and 1.88 million hogs were sold to the state, up 16.7 percent from the same period last year. [OW130755 Hefei Anhui Provincial Service in Mandarin 1100 GMT 10 Aug 82]

CSO: 4007/551

BRIEFS

PEASANTS' INCOME--Beijing, 16 Aug (XINHUA)--A survey of a cross-section of peasant families in suburban Beijing showed that their income increase in the last 3 years has surpassed the sum total increase in previous 21 years, according to the city's statistics bureau today. The survey, conducted over 525 households shows per capita income averaged 361.44 yuan in 1981, up 136.64 yuan over 1979. The average annual increase is 45.55 yuan between 1979 and 1981, as against 4.24 yuan in the previous 21 years. According to the statistics, the peasants' income from collective economy accounted for 71.9 percent of the total in 1981. Among the 525 families, 175 have an annual per capita income over 400 yuan in 1981, 49 over 500 yuan and 5 over 1,000 yuan. The statistics showed that families with annual per capita income over 300 yuan accounted for 61.9 percent of the sampling families in 1981, while those with annual per capita income under 150 yuan was only 4.2 percent in 1981. An official for the statistics bureau attributed the increased income to higher state purchasing prices for farm produce and sideline products, job responsibility system, the development of diversified economy run by communes and brigades, flourishing household sideline production, and more wage earners in these families. The statistics said 22 of the 525 families had an annual per capita income less than 130 yuan. [Beijing XINHUA in English 1232 GMT 16 Aug 82]

CSO: 4020/162

FLOOD CONTROL STRENGTHENED BY RESPONSIBILITY SYSTEM

Beijing ZHONGGUO NONGMIN BAO in Chinese 18 Jul 82 p 1

[Article: "'Double Contract' Responsibility System Manifests Formidable Power in Resisting Disasters. Jianyang Prefecture Cadre and Masses Solidarity Following Flood Disaster Revives Production Rapidly"]

> [Text] Editor's Note: This year some prefectures in several southern provinces were stricken with flood and waterlogging disasters. This was nothing out of the ordinary. Considering China's large size, it is difficult not to have a disaster in some part of it. What is so moving is that as a result of establishment of rural production responsibility systems, not only did peasant efforts in production become great, but in combat against disasters as well, they brought into play a valiant and tenacious spirit of masters in their own house. The emergence of this new situation and new atmosphere has demonstrated that policies since the Third Plenary Session of the 11th Party Central Committee have genuinely brought about fundamental changes in rural villages, and has shown the formidable power of production responsibility systems in conquering natural disasters. The several reports carried in today's newspaper on combat against disasters somewhat reflect this new situation, and readers will feel full of confidence and that prospects are bright.

In the face of a major flood disaster in mid-June, commune and brigade cadres and masses in Jianyang Prefecture, Fujian Province united as one to fight disaster and rescue from disaster in a demonstration of the formidable power produced by a combination of the superiority of collectives and individual initiative following "double contracting" whereby output quotas are based on households and households assume full responsibility for task completion.

In the rural villages of Jianyang Prefecture, where "double contracting" responsibility systems have been instituted, the rice had grown better this year than last. But in mid-June, several days of torrential rains caused houses to collapse, washed away fields with their growing crops and caused a serious disaster. No sooner had the floodwaters receded when every jurisdiction in the prefecture lost no time in beginning to rescue production, making concerted efforts to wash off plants, put plants back in place, work harder and add more fertilizer, rush plant and change plantings, and rush repairs on water conservancy facilities. In Shuikou Production Brigade in Guangze County, commune member Chen Shixue's [7115 6108 1331] house collapsed and his furniture and farm implements were washed away, causing losses of more than 3,000 yuan. But as soon as the waters receded, he went into the fields to press the seedlings back in place and wash off the crops. According to incomplete statistics, following the disaster 487,000 commune members in the prefecutre went into the fields to wash 413,700 mu of plants and to do extra work in adding fertilizer to 701,900 mu, to make additional sowings of more than 400,000 jin of late crop seeds, and to give strict attention to the prevention and control of diseases and insect pests.

After fighting the flood and doing rescue work, many communes and brigades immediately studied measures for providing for the masses and reviving production. Chengxiao Commune in Shaowu County collected 59,000 yuan from collective sources, and commune members contributed 25,000 yuan for self help to solve the livelihood problems of seriously hit households. All jurisdictions also equitably solved problems of responsibility for and remuneration of costs involved in rescue efforts. Some communes and brigades decided in the fight against disaster to institute the principle of a combination of centralization and contracting, with commune members themselves being responsible for doing the work on the fields for which they had contracted responsibility that were not greatly damaged by the disaster, records being kept on field plots that had been completely destroyed for year end unified study and solution. Farmland capital construction projects in any given production team were to be taken care of through central organization by the production team. Projects involving several production teams would be undertaken through production brigade organization. Where commune members' houses had collapsed, either near neighbors would help each other or the production team would arrange to send voluntary help from one to another in turn to provide assistance. Thus, mass enthusiasm for revival of production was very high, and some commune members voluntarily banded together to restore ditches and fields.

In recent days, Jianyang Prefecture has entered the "double contracting" season. For the time being commune members have put aside the repair and building of houses to devote themselves actively to rush harvesting and rush transplanting. As of 10 July, 56,000 mu of the early rice crop had been harvested in the prefecture, and transplanting of seedlings for the late crop was being done at the same time.

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CSO: 4007/494

BRIEFS

NINGXIA, GANSU WHEAT HARVEST--Beijing, 29 Jul (XINHUA)--Gansu Province in northwest China expects to harvest 2.9 million tons of spring wheat and other summer grain crops this year, nearly ten percent more than last year, according to the provincial statistical bureau. Spring wheat to be gathered on 330,000 hectares in the Gansu corridor, the province's major grain producing area, is estimated at 1.15 million tons, a ten percent increase over 1981. Hetao Plain, a major grain producing center in neighboring Ningxia Hui Autonomous Region, harvested 490,000 tons of spring wheat this year on 100,000 hectares of farmland, nearly ten percent more than the 1981 record level. The good harvest is due to the institution of the responsibility system, adoption of fine wheat strains, scientific application of chemical fertilizer and increased use of herbicides. [Text] [OW010433 Beijing XINHUA in English 0727 GMT 29 Jul 82]

WHEAT HARVEST--Gansu Province's Liangdang County has reaped a good wheat harvest in 1982. By 10 August this county had stored some 3 million jin of wheat, overfulfilling the summer grain procurement task. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 14 Aug 82]

LINZE COUNTY WHEAT HARVEST--Gansu Province's Linze County reaped a bumper wheat harvest on 120,000 mu of farmland. The total wheat output reached 94 million jin, an increase of 28 percent over the 1981 figure and 10 percent over that of 1980 when the wheat harvest reached an all-time high. [SK191337 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 18 Aug 82]

GRAIN PROCUREMENT--Heshui County in Gansu Province reaped a bumper wheat harvest this year and peasants enthusiastically handed over the wheat to the state. By 10 August, the county had overfulfilled the summer grain procurement plan by 6,700 jin. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 18 Aug 82]

CHENG COUNTY WHEAT HARVEST--Cheng County, Gansu Province, has reaped a bumper harvest on its 270,000 mu of wheatfields in 1982. The total wheat output has reached 84.83 million jin, an increase of 38 percent over 1981. [SK161152 Lanzhou Gansu Provincial Service in Mandarin 1100 GMT 15 Aug 82]

LIVESTOCK PRODUCT PROCUREMENT UP--Gansu Province saw a large increase of livestock products during the first half of 1982. During the period, the province procured 54,000 cattlehides, an increase of 1.3 percent over the same period last year; 268,000 sheepskins, a 75.2 percent increase, and 40,200 goatskins, an 88.7 percent increase. Sheep's wool and cashmere also increased by a large margin over the same period last year. [Excerpt] [Lanzhou GANSU RIBAO 27 Jul 82 p 1]

CSO: 4007/563

MAJORITY OF GUANGDONG'S RURAL POPULATION STILL RELY ON CONTAMINATED WATER SOURCES

Guangzhou NANFANG RIBAO in Chinese 12 Jun 82 p 1

[Article: "During the Past 2 Years 3 Million People in Province's Rural Villages Now Use Clean Water Showing Improvement in Peasant Standard of Living and Cultural and Scientific Standards; Provincial Government Convenes Conference on Rural Water Improvement, Decides to Hasten Pace of Water Improvement Work To Solve Within 3 Years' Time the Problem of Drinking Water Sanitation for 8 Million Rural Population"]

[Text] The Provincial People's Government recently convened a provincial work conference on water improvement at Zinhui. The conference decided to address the problem of sanitary drinking water for 2 million members of the rural population this year and for 8 million within 3 years.

This conference was the first provincial work conference convened by the Provincila People's Government on water improvement. Attending the conference were persons in charge in all prefectures, counties, and municipalities to a total of more than 140. Deputy Provincial Governor Yang Kanghua [2799 1660 5478] gave a speech.

The conference summarized and exchanged experience. Ever since the Provincial People's government handed down directives on doing a good job of improving rural drinking water sanitation in 1980, all levels of the people's government have diligently carried them out to give vigorous impetus to development of work to improve water in rural villages of the province. As a result of these 2 years of efforts, 3 million people in the province's rural villages now use clean water, and more than 70 percent of these have running water.

The conference acknowledged that practice everywhere has shown that in order to do a good job of rural water improvement, it is necessary first of all to increase understanding of the importance and urgency of rural water improvement work, and to strengthen leadership of this work. At the present time, about 13 million people in the rural villages of the province get their drinking water out of rivers, ditches and ponds, and 1.5 million people drink highly fluoridated water or brackish water, or have inadequate water. Because drinking water is not clean, communicable intestinal diseases increase year by year. There have been cases of pesticide poisoning and food poisoning, and the tumor incidence rate rises year by year. That so many peasants drink contaminated water; more than 30 years after Liberation is an important matter that should arouse the extreme concern of all levels of the people's government. A good job of water improvement is an indication of improvement in the living standards and in the cultural and scientific levels of the peasants. It is also a benefit that the people can see and touch right away; it is something everyone wants. For ecample, Shantou Prefecture party and government leaders devoted considerable attention to the task of improving water, and took firm action. During the past 2 years the prefecture has completed work on more than 5,200 projects to improve the water, thereby benefiting 610,000 people. Now more than 70 percent of the people in eight of the prefectures 13 counties and municipalities have clean drinking water. Formerly Foshan Prefecture did not act firmly enough, but last year acted to complete construction on running water projects that benefited 360,000 people, making it the prefecture in the province with the finest accomplishments in improving water last year.

The conference acknowledged that improvement in rural village water has broad ramifications and required all departments concerned to take active responsibility, to divide tasks and cooperate, each discharging his obligations to the maximum extent possible as the way to do a good job.

The conference agreed that rural water improvement is a job for public utilities and is a collective welfare endeavor for the masses. During a time when the national economy is in somewhat strained circumstances, improvement in rural water must adhere to a program of self-reliance with "people acting with public support action by the people being paramount." Statistics from Foshan Prefecture show that last year the prefecture completed construction on 228 running water projects, investing a total of somewhat more than 11.13 million yuan, 66.4 percent of which came from funds contributed by communes, brigades, and individuals, with the state providing 16.2 percent as a support subsidy, overseas Chinese and compatriots in Hong Kong and Macao providing 11.4 percent, and industrial enterprises contributing six percent. This experience is a very good one that can hasten improvement in rural water under current circumstances in which the country is still fairly poor and the peasants are not yet very rich.

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CSO: 4007/476

POINTERS GIVEN ON INCREASING HYBRID RICE YIELDS

Guangzhou NANFANG RIBAO in Chinese 17 Jun 82 p 2

[Article by Li Shanfa [2621 9810 4099], Provincial Department of Agriculture: "Great Prospects for Development of Late Crop Hybrid Rice"]

[Text] Last year Guangdong Province grew 2.83 million mu of late crop hybrid rice, more than double the amount for the same period in 1980. Though the weather was abnormal, with somewhat too much rainfall and insufficient sunshine, plus damage from torrential typhoon rains and the cold dew wind during the mid and late stages of growth, nevertheless, with a rational crop pattern, proper arrangement of hybrid combinations, and adoption of a series of commensurate farming practices, all jurisdictions were able to obtain increased yields, which were generally 100 jin more and as high as more than 200 jin more per mu that from conventional varieties.

Production practice during the past several years has shown that promotion over wide areas of late crop hybrid rice is an important means of capitalizing on strengths and downplaying weakness to speed up the realization of consistently high grain yields. Today there are many conditions favoring development of late crop hybrid rice in Guangdong Province. First of all, hybrid rice has stronger growth heterosis than conventional rice; its photosynthesis is strong, its accumulation of material great, its panicles large and grains numerous; its per thousand grain weight heavy, its potential for increased yields great, and yields of more than 1,000 jin per my are easily obtainable from it. Secondly, following several years of selecting combinations, superior variety combinations Shanyou No 6, Weiyou No 6, and Shanyouke 30 have been selected. They are all characterized by good plant shapes, strong heteroses, high fruiting rates, strong resistance, strong resistance to bacterial blight and leaf hoppers, and suitability for growing as a late rice crop. Third, hybrid rice ripens early making it possible to avoid the cold dew wind. The cold dew wind is the main calamitous weather for the late rice crop, but it occurs during October in most years. If hybrid rice is sown in late June or early July and transplanted in late July or early August, it can be in full head by the end of September, and thus the late rice crop would have about a 90 percent chance of escaping the cold dew winds. In this way the passive situation could be evaded in which light sensitive types have to go through the stage of short days of sunshine in the fall in order to produce panicles, frequently encountering cold dew winds as a result. This would play a major role in changing the situation of low and inconsistent yields from the late rice crop.

Guangdong Province has accumulated some good experiences in the development by hybrid rice, but attention to the following several points is still required to farm it. (1) Need to guarantee a safe full head period. Hybrid rice is generally fairly sensitive to temperature and light, particularly during the heading and blossoming season when it can be particularly hurt by cold dew winds. For most hybrid combinations being promoted over wide areas in the province today, full heading has to occur before the end of September. Thus, it may be sown in early July and transplanted in late July or early August in south central prefectures to form heads in late September and ripen in early November. In the north and in mountain regions, sowing has to be advanced to late June or early July, with transplanting done at the end of July to assure full heading before 25 September in order to avoid the cold dew winds. (2) Numbers of seedlings have to be appropriately increased so as to get more tillers early in the season so as to assure a sufficient number of panicles for high yields. Generally speaking, between 60,000 and 80,000 basic seedlings per mu should be planted in fertile fields, and in fields of less than moderate fertility between 80,000 and 100,000 basic seedlings (including tillers) per mu should be planted. Not all hybrid rice tiller form panicles, but the panicle formation rate from early seasoning tillering is high; consequently, in order to get a substantial amount of tillering during the early season, in addition to making sure to sow lightly to nurture sturdy seedlings, open field care during the early season is very important. The experience of high yield units is to put down sufficient base fertilizer, and then within 3 to 5 days after transplanting to apply urea at the rate of 12 to 15 jin per mu. After the seedlings green up, irrigation should be done to keep the seedlings moist to promote much early season tillering. (3) Intensification of late season care to prevent premature deterioration. After the fields have been sunned and water returned to them, if plant condition warrants, a top dressing of panicle fertilizer should be applied. Examination of plants has shown that when panicle fertilizer is applied around the 13 leaf stage, the heading rate is higher than when it is applied at the 14 leaf stafe, for an increase in yields of about 5 percent per mu. When panicles rupture and growth of the standing grain is unsatisfactory, a spraying should be given using phosphate fertilizer and urea. Experiments show that leaf spraying with phosphate fertilizer produces yield increases of form 3 to 5 percent as compared with no spraying with phosphate fertilizer, and that spraying twice produces 4 to 6 percent greater yields than spraying once. In water management, fields must be kept moist and premature withdrawal of water strictly guarded against. Withdrawal of water 7 days before harvesting produces 20 to 30 percent greater yields than withdrawal of water 12 days before harvesting.

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CSO: 4007/476

BRIEFS

PROCUREMENT WORK--The total amount of agricultural and sideline products procured in Guangdong Province in the first half of this year was 2.11 billion yuan, which was 11.8 percent more than in the corresponding period of last year. [HK110509 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 6 Aug 82]

BUMPER SOYBEAN HARVEST--Guangdong Province reaped a bumper soybean harvest this summer. The total soybean output in the province is 170,000 dan more than the same period last year, which is an 11.8 percent increase. The average output per mu is 137 jin, which is 14 jin more than the same period last year. Both the total output and the per mu output figures have set new records. The increase has been due to the expansion of the area of land that has been used in cultivating soybeans and to scientific farming. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 9 Aug 82]

HYBRID EARLY RICE--Guangdong Province reaped a bumper harvest from 2.8048 million mu of hybrid early rice and per-mu yield was about 100 jin more than the per-mu yield of conventional early rice. The area sown with hybrid early rice this year was 150 percent more than in the corresponding period of last year. [HK111355 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 8 Aug 82]

PREFECTURE GRAIN PRICES--Since the summer harvest, the grain prices in Zhanjiang Prefecture have dropped. The negotiated price of rice sold by the grain stations on the Leizhou Peninsula, the Jiangjiang Plain and the bank of the Moyangjiang River has fallen from .38 yuan a jin to .35 yuan a jin. The price of every 100 jin of unhulled rice sold by the agricultural market has been reduced by 3 to 4 yuan. The per-jin price of sweet potatoes is .04 to .05 yuan. The prices of miscellaneous food grains and beans have also dropped accordingly. The gradual reduction in grain prices in the prefecture is the result of ample supplies of grain. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 8 Aug 82]

GOOD PEANUT HARVEST--Guangdong Province has completed the harvesting of the 5.31 million mu of spring-sown peanuts. According to statistics compiled by relevant departments, total output of peanuts is some 10.27 million dan, 4.9 percent more than in the corresponding period of last year. Total output and per-mu yield have exceeded the previous highest levels. The province has increased peanut production for 4 consecutive years. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 8 Aug 82]

SUGAR OUTPUT--As of early August, Guangdong had turned in to the state 630,000 dun of sugar, overfulfilling its quota by 90,000 dun and registering a 57.5 percent increase compared with last year. In the 1981-82 sugar season, Guangdong's total sugar output was 1.28 million dun. [OW130805 Beijing XINHUA Domestic Service in Chinese 0114 GMT 11 Aug 82]

GUANGDONG, GUANGXI RICE HARVEST--Beijing, 4 Aug (XINHUA)--Guangdong Province, one of China's major rice producers reports a harvest of 8.25 million tons of early rice this year, 350,000 tons more than in 1981. Per-hectare rice yield was 4.38 tons, 262.5 kilograms more than last year's figure. The neighboring Guangxi Zhuang Autonomous Region, also a major rice producing area, expects to harvest about 400,000 tons more early rice on 1.2 million hectares of fields this year than last. Heavy rains hit Guangdong between mid-May and June and affected 166,000 hectares of rice fields. In Guangxi also, the paddy fields of 19 countries in the northern and eastern parts were innundated due to the heavy downpours. The good harvest, provincial and regional agricultural departments said, represented an achievement made despite waterlogging, and is due to the institution of the job responsibility system, popularization of fine rice strains and transformation of low-yield fields. [Text] [Beijing XINHUA in English 0727 GMT 4 Aug 82]

EARLY RICE HARVEST--According to a preliminary estimate, Guangdong Province has reaped a bumper harvest of early rice with total output of 16.5 billion jin, an increase of more than 700 million jin compared to 1980. The per unit yield is 584 jin, an increase of 35 jin. [Excerpt] [Beijing RENMIN RIBAO 4 Aug 82 p 1]

CSO: 4007/570

BRIEFS

INDUSTRIAL CROP PRODUCTION--Despite natural disasters, Guangxi region reaped a bumper harvest of industrial crops in the first half of this year. According to statistics, by the end of June the region had procured some 16,200 dan of pineapples, which was 39.12 percent more than in the first half of last year; some 86,000 dan of bananas, which was 68.7 percent more than in the corresponding period of last year; and some 65,300 dan of tea, which was 21.72 percent more than in the same period of last year. [HK110833 Nanning Guangxi Regional Service in Mandarin 1130 GMT 8 Aug 82]

EARLY RICE HARVEST--Guangxi Zhuang Autonomous Region reaped more than 18 million mu of early rice, with total output projected to be about 800 million jin more than 1981. The most obvious characteristic of this year's early rice production is a balanced increase of output over a large area. Of the region's 8 prefectures, 7 increased output. [Excerpt] [Beijing RENMIN RIBAO 4 Aug 82 p 1]

CSO: 4007/569

SUMMER GRAIN PROCUREMENT OVERFULFILLED

Shijiazhuang HEBEI RIBAO in Chinese 1 Jul 82 p 1

[Article: "Province's Summer Grain Procurement and Warehousing In Full Tide. Large and Small Trucks Fully Loaded With Summer Grain Head From All Directions Toward State Granaries. Twnety-nine Counties (or Municipalities) Have Fulfilled or Overfulfilled Their Summer Grain Procurement Quotas"]

[Text] The province's summer grain procurement and warehousing is in full tide. For days on end, highways and main thoroughfares have been a bustling scene of large and small trucks fully loaded with summer grain moving in an endless stream from all directions toward state granaries. They have averaged deposits in granaries of more than 100 million jin daily. As of 29 June, the summer grain procured and stored in granaries amounted to 54.3 percent of plan. Cangzhou Prefecture has overfulfilled this year's summer grain procurement quota, the amount going into granaries being 2.7 times that of the same period last year. Quotas were fulfilled 40 days earlier than last year. Handan Prefecture and Shijiazhuang City have fulfilled more than 85 percent of their summer grain state procurement quotas, and the pace of procurement and warehousing in Hengshui and Baoding prefectures is notably faster than during the same period last year. After nine counties including Nanpi, Linzhang, Handan, and Ji fulfilled their summer grain state procurement quotas, the counties of Daming, Wei, Jize, Guangping, Cheng'an, Ci, Wuan, Xinhe, Pingshan, Qingyuan, Anci, Wenan, Dacheng, Xian, Hejian, Dongguan, Wuqian, Mengcun, Suning, and Cangzhou City fulfilled and overfulfilled their summer grain state procurement quotas.

This year the province's summer grain crops encountered severe, protracted drought, and during the late stage, hot dry winds and aphid pests occurred. However, thanks to the tremendous power of the party's policies the further perfection and completion of production responsibility systems, and the combat against disaster and painstaking care of the broad masses, damage caused by the disasters was reduced. Cangzhou Prefecture located in the Heilonggang Basin has a smaller summer harvest area than last year. The masses praise the party's policies as being good, and eagerly sell patriotic grain to the state. In order to win the battle of summer grain procurement, leaders at all levels have taken the initiative for all of this year, and for the next 2 years, have genuinely strengthened leadership, and have diligently implemented existing contract procurement policies, which have won the confidence of the people.

Grain departments have increased the number of network outlets to get grain into granaries and have lengthened work hours. Some places have transferred personnel, and have gone into production teams with scales, containers, and cash to make onsite examinations of quality, using every available means to accomodate the masses in making sales, thereby accelerating the pace of grain getting into granaries.

9432
CSO: 4007/489

IMPROVED MANAGEMENT, SCIENTIFIC FARMING CREDITED FOR BUMPER HARVEST

Shijiazhuang HEBEI RIBAO in Chinese 28 Jun 82 p 1

[Article: "Qiu County Conquers Drought, Insect Pests, and Wind Disasters To Win Bumper Wheat Harvest. Ninety Percent Increase in Gross Output Over Last Year, and Yields Per Unit of Area Almost Double Last Year's"]

[Text] During this time of the wheat harvest, heartening news of a bumper harvest has been relayed from Qiu County located in the Heilonggang Basin. The county's 175,000 mu of wheatfields have delivered an output of 35 million jin, a 90 percent increase over last year, and yields per unit of area amounted to 200 jin, almost double last year's.

Use of the spirit of the Central Committee Rural Work Conference to solve crucial problems currently existing in rural work is the most important reason for the bumper summer harvest that this county reaped. In this county, 98 percent of production teams have instituted responsibility systems whereby peasant households assume full responsibility for task completion. Nevertheless, two problems were fairly prominent. One was that many production team groups were in a state of paralysis or semi-paralysis; the second was that pump well management was in disarray, and peasants found it difficult to water their fields. In view of these circumstances, last winter and this spring, firm action was taken throughout the county to reorganize grassroots level groups and pump well management systems of responsibility. Groups that had been reorganized and readjusted made full use of their accumulated skills. In the realm of pump well management, everything was under the centralized management of production brigades, production teams, or work teams, with specific persons designated responsible in the practice of different forms of responsibility systems, which greatly increased the pump well effective watering rate. Most of the county's wheatfields were watered more than twice, and in many production teams watering was done four or five times. Watering was done on a cumulative 440,000 mu throughout the county, making it an all time high year for area of wheatfields watered.

Spread of science and technology and institution of scientific farming was yet another important reason for this county's being able to harvest a bumper wheat crop this year. In view of the new circumstances whereby individual households assumed full responsibility for tasks, agricultural technicians and commune members in most communes signed agreements linking output to wheat growing techniques. During different stages of wheat growth, agricultural science and technology units would use wired broadcasts, disseminate printed materials, and give on-site demonstrations to impart scientific techniques and rotationally train more than 30,000 mainstay cadres in techniques. They emphasized more than in previous years three methods of scientific crop care. One was increased fertilization with phosphate; second was a good job of winter irrigation and proper postponement of irrigation for greening up; and third was fairly effective prevention and control of wheat aphid and hot dry wind damage.

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CSO: 4007/489

BUMPER WHEAT HARVESTS REPORTED IN TWO PREFECTURES

Shijiazhuang HEBEI RIBAO in Chinese 2 Jul 82 p 1

[Article: "Cangzhou and Hengshui Prefectures Win Bumper Wheat Harvest. Diligent Perfection of Production Responsibility Systems and Tenacious Struggle Against Severe Drought"]

[Text] Canzhou Prefecture, located in the middle and lower reaches of Heilonggang, has relayed joyous news about a bumper summer harvest. Statistics from prefectural units concerned show that despite 4 consecutive years of drought and a 20 percent reduction from last year in the prefecture's wheat growing area, total wheat output has increased 40 percent and yields per unit of area have increased more than 60 percent this year. As of 29 June, the prefecture had already overfulfilled its summer state procurement quota.

Beginning with the fight against drought to plant wheat last fall, Cangzhou Prefecture promoted various forms of production responsiblity systems, which sparked the energies of cadres and commune members. Throughout the prefecture, soil moisture was made on more than 3 million mu of wheat growing area, and quality of sowing was such as had not been seen for many a year. Last winter and this spring, all counties and communes took a firm grip on the perfection of responsibility systems, helped contracting households solve real difficulties, brought into full play the initiative of both collectives and commune members, and gave impetus to the launching of a struggle against drought. Throughout the prefecture a general mobilization of males, females, the old and the young took place, and round the clock all out efforts were made to sink wells and water the wheat. Within a several month period, funds raised for water conservancy alone amounted to more than 38.6 million yuan, including more than 17.7 million contributed by commune members themselves. In fighting drought to water the wheat, for more than 85 percent of the pump wells in the prefecture, responsibility systems were applied. In Nanpi County, where a good job was done, various forms of contracting were done for more than 2,900 pump wells and associated equipment. Watering of fields from deep wells increased from 15 to 33 mu daily, and watering from shallow wells rose from 7 mu to 14 mu daily while watering costs dropped 30 percent. In addition, throughout the prefecture more than 230 new deep pump wells, more than 3,500 shallow pump wells, and more than 9,000 vacuum wells were sunk. In addition, more than 60,000 hand pump vacuum wells were added. This plus the use of some water diverted from the Huang. He permitted the watering of a total wheatfield area in the prefecture of more than 3.7 million mu, 1 million mu more than during the same period last year. All counties and communes stabilized and perfected production responsiblity systems, which they developed toward the linking of output to technology to promote scientific management of the wheat and scientific use of water. In some communes and brigades new techniques of "shallow application of two fertilizers," use of brackish water, and regionalization of fine varieties were promoted over wide areas to make for a bumper wheat harvest.

Hengshui Prefecture conquered serious drought to win a bumper wheat harvest this year. Despite a 700,000 reduction from last year in the wheat growing area, total output increased almost 30 percent over last year.

This prefecture has had drought for 4 consecutive years. Under these circumstances, beginning with wheat planting last year, all levels of leadership cadres throughout the prefecture went deep into the countryside to publicize pertinent documents of the Central Committee, to study new circumstances, to solve new problems, to focus principal efforts on the perfection of various production responsibility systems, and to emphasize establishment and perfection of pump well management responsibility systems so that pump wells and such water conservancy facilities would find full use. In addition, commune and brigade collectives and individuals used every available means to accumulate funds to sink more than 3,200 pump wells of various kinds, and to repair more than 3,400 defective or broken wells. Some counties used water diverted from the Huang He, thereby being able to water 700,000 mu more wheat this year than last. The Fucheng County CCP Committee and county government selected 100 comrades with rural work experience who understood policies to organize work teams to go from village to village to help perfect production responsibility systems and to spur on the fight against drought for a bumper harvest. Every one of the 22 communes in the county doubled its summer output. Throughout the prefecture, scientific management of wheat was also better than in former years. By way of spreading scientific techniques, in addition to emphasizing the training of farm technicians, all the counties and communes in the prefecture ran a total of 657 farm technology training classes, 427 special seminars on wheat management techniques, more than 490,000 people receiving training. This brought about the scientific watering of fields, application of top dressings of fertilizer at the right time and in the right amount, and a change particularly from the former spreading of phosphate fertilizer all over the ground to shallow application of a mixture of phosphate and nitrogenous fertilizer for very good results.

9432
CSO: 4007/489

NOTICE ISSUED ON PESTICIDE CONTROL

Shijiazhuang HEBEI RIBAO in Chinese 28 Jun 82 p 1

[Article: "Intensify Pesticide Management To Strictly Guard Against Accidental Poisoning. Relevant Provincial Departments Issue Joint Notice"]

[Text] Recently the Provincial Public Security Department, the Health Bureau, the Agricultural Bureau, the Supply and Marketing Administration, and the Chemical Industry Bureau issued a joint notice requiring all jurisdictions to intensify pesticide management to strictly guard against accidental poisonings.

The notice said that the farflung rural villages of the province have entered a period of eradication of agricultural crop disease and insect pests, and all jurisdictions are to emphasize propaganda and education in the safe use of pesticides. In rural villages, production teams should designate a person with specific responsibility or concurrent responsibility for the safekeeping and use of pesticides. Persons who have not undergone training or lack safety knowledge shall not be permitted to use or store pesticides. All pesticides must be centrally purchased by production teams or specialized teams, and their use is to be strictly managed. All regulations pertaining to pesticide use are to be strictly observed. All pesticide containers must bear complete and firmly attached lables as well as detailed instructions for use. Those not meeting these aforestated requirements are, without exception, not to be permitted to leave the plant where they are manufactured. Mixing of pesticides, or soaking and mixing seeds in them, is to be done far away from drinking water sources, cattle feed sites, messhalls, granaries, and foodstuffs. When used, protective clothing and equipment is to be worn, and required antidotes are to be carried. It is forbidden to spray pesticides during noon heat or with exposed arms or body. Fields and orchards that have been sprayed with insecticides should be clearly posted during the danger period, and both people and livestock kept from entering.

The notice said that in the work of preventing and controlling farm crop diseases and insect pests, it is necessary to stick to the principle of "centralized organization of prevention and control," instituting centralized inspections for insects, centralized purchases of pesticides, centralized storage, centralized mixing of pesticides, and centralized treatment of crops done by specialized teams, fees being levied on separate households on the basis of the area covered in a treatment system of "five centralized and one separate." This is a fundamental reversal of separate household purchases of pesticides, keeping of pesticides, and use of pesticides so as to eliminate unsafe factors. It is strictly prohibited to sell pesticides without authorization or to resell insecticides privately at a profit. For all chemical pesticides with the exception of benzene hexachloride, DDT, and dichlorvos, which may be sold by grassroots supply and marketing units for use in public health, all other pesticides must be supplied soley by centralized means of production supply units. Purchases of pesticides must be done against certificates issued by production brigades. Responsibility will be fixed for violators.

9432
CSO: 4007/488

FIGHT AGAINST BOLLWORMS OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 28 Jun 82 p 1

[Article: "Handan Prefecture Goes All Out To Eliminate Cotton Bollworms. All Levels of Leaders Go Into Cottonfields, and All Departments Make Concerted Effort"]

[Text] In order to insure normal cotton growth, Handan Prefecture leadership cadres at all levels have gone into the cottonfields to lead the masses in an all out effort to eliminate second generation bollworms.

According to most recent monitoring reports, second generation bollworms have broken out everywhere in this prefecture 10 days earlier than in most years, and ova are from 8 to 10 times more numerous than in most years. Never has there been a bollworm situation as severe as this one during the same period in this prefecture. In order to eliminate them at once, the Provincial CCP Committee and government administrative offices issued a bollworm prevention and control report in early June, and on 16 June they held an on-site meeting at Qiu County at which all levels of all units were asked to establish personal responsibility systems, take genuine control of the bollworm situation, pick the proper time for combat, and arouse the masses to make an all out effort at elimination. Qiu County, which acted relatively early, fielded 20,000 people and used 18,000 pieces of spraying apparatus. By 16 June it had cleared 110,000 mu to bring the bollworms virtually under control. Comrades in charge at the Linzhang County CCP Committee Standing Committee, the deputy county magistrate, and the chairman and deputy chairman of the representative assembly, as well as those in charge of departments, offices, committees, and bureaus went to villages and communes in an all out effort to direct control of the bollworms, An overwhelming majority of communes and brigades in the prefecture instituted centralized monitoring and reporting, centralized purchases of pesticides, centralized formulation of pesticides, centralized standards, and centralized times, the work of eliminating bollworms being done by separate households. They used a combination of highly effective pesticides and conventional pesticides, native methods and foreign methods, a combination of powders and emulsions, and a combination of biological prevention and control and chemical prevention and control. Farm technicians at all levels both promptly and accurately monitored and reported on the bollworm situation and also used diverse methods to get bollworm control techniques into the hands of the myriad households. Supply and marketing units persevered in gearing to the needs of production and service to agriculture, lengthening hours of operation and taking the initiative in sending pesticide apparatus to production teams and households. According to 10 June statistics, prefecture supply and marketing cooperatives had already sent to the countryside more than 5,700 tons of pesticide and more than 66,000 pieces of pesticide equipment. As of 17 June, more than 860,000 mu had been cleared in the prefecture, amounting to 80 percent of the area of bollworm occurrence.

9432
CSO: 4007/489

BRIEFS

LIVESTOCK DEVELOPMENT--After production readjustment between agriculture and livestock, Heilongjiang Province has made great progress in developing livestock. The province has zoned Anda County and Dorbod Monggol Autonomous County as livestock areas and 11 other counties in western Heilongjiang including Longjiang, Fuyu, Gannan and Tailai, as half agricultural and half livestock areas. Cattle and sheep sold by the 13 counties to the state account for 48 percent of the total number in the province and wool output, 50 percent of the provincial volume. According to statistics compiled at the end of June, the province scored a 600-700 percent increase in raising milk cows over the former figure and a 10-fold increase in raising cattle and horses. It also scored a 75 percent increase in raising milk cows over 1978's figure and a 100 percent increase in raising sheep, as well as scoring a 100 percent increase in meat cattle sold to the state over 1978's figure, a 150 percent increase in fresh milk and a 200 percent increase in sheep's wool. In 1981, per capita income from livestock undertakings scored a 40 percent increase over the previous peak. [SK141206 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 13 Aug 82]

DAIRY PRODUCT OUTPUT--Since the third plenary session of the 11th CPC Central Committee, Heilongjiang Province has scored an over 37 percent increase in dairy industrial production each year. In 1981, the province surpassed the 1978 output by 140 percent. Over the past 3 years, the province has accumulated over 27 million yuan for the state. As of July this year, the province had 100,000 head of milk cows, a more than 100 percent increase over the 1981 figure. Through technical renovations, dairy farms across the province have upgraded their daily capacity in processing fresh milk from over 300 tons to over 600 tons. [Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 13 Aug 82]

COMMUNE AND BRIGADE-RUN ENTERPRISES--Since the third plenary session of the 11th CPC Central Committee, Heilongjiang Province has made great progress in developing commune and brigade-run enterprises. According to statistics compiled at the end of 1981, the province had over 21,000 enterprises of this kind, which employed over 544,000 people. Over the past 3 years, the province has scored a 14.4 percent increase in the enterprise number each year, has handed over 120 million yuan of taxes to the state, has conserved 450 million yuan for collective accumulation and has scored an over 800 million yuan increase for commune member incomes. At present, the province has 3,600 production networks and centers that have achieved over 300 million yuan of output value over the past 3 years. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 13 Aug 82]

TAHE COUNTY RAINFALL--Owing to a 115-mm torrential rainfall on 8 August, residents of 1,500 households in Tahe County, Heilongjiang Province, were plagued with torrents of water rushing down the mountains. According to a report made by rescue teams dispatched by the county people's government, there were no casualties thanks to timely rescue operations. [SK170945 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 16 Aug 82]

CSO: 4007/551

BRIEFS

PROVINCE DEVELOPS ANIMAL HUSBANDRY--The number of draft cattle on hand in 1981 was 6.1 million head and was 18.4 percent more than in 1978. The number of draft cattle on hand by the end of June this year was 6.295 million heads and was 11.5 percent more than in the corresponding period of last year. The province now has some 50,000 specialized and key households in livestock production. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 16 Aug 82]

CSO: 4007/551

BRIEFS

GRAIN, OIL PROCUREMENT--By the end of July, Hubei Province had procured 2.47 billion jin of summer grain and stored it in granaries, overfulfilling its procurement quota by 37 percent. The province procured some 340 million jin more than in 1979, a year of a big bumper harvest. By the end of July, the province had stored 4.348 million dan of rapeseeds, overfulfilling its procurement quota by 90 percent. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 5 Aug 82]

CSO: 4007/551

BRIEFS

SPECIALIZED HOUSEHOLDS--Since the implementation of the production responsibility system, rural areas in Changde, Yiyang, Yueyang, Hengyang, Lingling and Chenzhou Prefectures have some 311,000 specialized households and key households. These specialized households and key households have made good use of the local natural resources to promote planting, animal husbandry and processing industry. They work very hard to bring their strong points into full play and have become rich. If the average output value of a standard agricultural worker is more than 800 yuan, the average output value of specialized households is as much as 1,500 to 3,000 yuan. A woman peasant in Taoyuan County who is specialized in breeding rabbits is able to get an output value of 4,000 yuan a year. Eighteen specialized households and key households in Huarong County were able to earn 10,000 yuan last year. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 9 Aug 82]

EARLY RICE HARVEST--Hunan Province reaped a good early rice harvest this year despite serious natural disasters. According to statistics, the total output of early rice was 19.96 billion jin, 307 million jin more than last year and an increase of 1.61 percent. This is the highest record of the province. Nine out of the 16 prefectures and municipalities have increased output, of which, Yiyang Prefecture has increased its output by 123 million jin, an increase of 5.29 percent. Sixty-six out of the province's 101 counties have increased output. Of which, 14 have increased it by more than 100 percent. Although the seeded area of early rice was reduced, the per unit area yield has increased by 18 jin overlast year. The province has been able to reap a bumper early rice harvest since the agricultural production responsibility system has been further stabilized and perfected and the peasants' enthusiasm has been promoted. By the end of March, 99.4 percent of the province's production teams had established the production responsibility system. Furthermore, scientific agricultural measures have been implemented, and the weather is favorable for crops. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 9 Aug 82]

EARLY RICE--Changsha, 10 Aug (XINHUA)--Hunan Province has harvested 9.98 million tons of early rice this year, 153,500 tons more than last year, provincial authorities announced today. Total and per unit outputs of early rice this year are all-time highs, authorities said. Hunan Province is a major early rice producer of China's. The crop accounts for 40 percent of the province's annual output of grain. [Text] [Beijing XINHUA in English 1524 GMT 10 Aug 82]

CSO: 4020/162

JIANGSU FLOODED FARMLAND QUICKLY DRAINED

OW071353 Beijing XINHUA in English 1201 GMT 7 Aug 82

[Text] Nanjing, 7 Aug (XINHUA)--Most of the 660,000 hectares of low-lying farmland swamped by rainstorms in Jiangsu Province in July were drained in one or two days, according to the provincial government.

Between 9 and 24 July, rain hit 68 of the 75 counties and cities in Jiangsu Province. Precipitation exceeded 100 millimeters. In some places, the rainfall topped 300 millimeters.

Most of the local rivers rose above the warning mark.

No river dike was breached along the hundreds of kilometers protected.

The first and second communist party secretaries and the acting governor gave guidance in the battle. People's Liberation Army units helped the people guard the dikes and drain the fields.

Two million horsepower of pumps were used for drainage.

When the rising water level of the Chuhe River menaced the Beijing-Shanghai Railway, over 10,000 cadres and peasants stood guard on the river dikes. Safe operation of the railway was ensured.

A good wheat harvest was reaped by the province this summer and the people are now working for another good harvest this autumn.

CSO: 4020/159

BRIEFS

LIVESTOCK PRODUCTION--According to a cross-section survey of 360 commune member households in Jilin Province, commune member's household income from livestock breeding increased at an average rate of 31.7 percent annually in the past 3 years. In 1981 income from rearing stock was 132.2 yuan per household, accounting for 45.1 percent of these households' total income. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 23 Aug 82]

CSO: 4007/551

BRIEFS

IMPOVERISHED PRODUCTION TEAMS--Under the support of the Yingkou County CPC Committee, a number of impoverished production teams in the mountainous areas of this county have improved their backward situation. By the end of 1981, production teams with an average per capita income of only 50 yuan decreased from 386 in 1978 to 52, about 2.5 percent of the total number of production teams in the county. In 1980, the Yingkou County CPC Committee organized 21 committees, offices and bureaus to help 101 production teams in five communes develop breeding and planting undertakings, thus succeeding in bringing prosperity to the backward mountain areas. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 3 Aug 82]

WHEAT OUTPUT--Faku County, Liaoning Province, has reaped a bumper wheat harvest this year. According to statistics, the county's total output reached over 15 million jins, a 2.76 million jin increase over the 1981 figure and topping previous peaks. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 14 Aug 82]

LIAONING **INSECT PESTS--Our reporters have learned from the provincial farm crops insect pests forecast station that since early August the snout moth's larva pest is spreading throughout most of Liaoning Province. This serious plague will hit Jianchang County in Chaoyang Prefecture; Heishan, Xingcheng and Suizhong Counties in Jinzhou Municipality. The plague is expected to expand into a number of areas. Localities in the province should vigilantly conduct examinations and prevention work in a timely manner. [Text] [SK090958 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT** 8 Aug 82]

CSO: 5400/4014

BRIEFS

WHEAT OUTPUT--In spite of the drought this year, Jirem League, Nei Monggol Autonomous Region, has reaped a bumper wheat harvest. The output of its 250,000 mu wheat crop is expected to reach the peak scored in 1981. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Aug 82]

IH JU LEAGUE AFFORESTATION--Ih Ju League, Nei Monggol Autonomous Region, has mobilized the masses to plant trees during the rainy season. As of mid-August, the league forested 1.12 million mu and rushed to plant 386,000 mu of fine-quality forage grass. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 17 Aug 82]

REGIONAL FORESTRY--According to statistics compiled by the Nei Monggol Autonomous Regional Forestry Department, the region planted 5.45 million mu of trees in spring and rainy seasons [this] year, a 980,000 mu increase over the 1978 figure. In addition, the people throughout the region obligatorily planted 31 million trees and 164,000 mu of forests. From 1979 to 1981 the region planted 14.75 million mu of trees and scored a 10 percent increase each year. Rural people in the region planted 270 million trees and scored a 38 percent increase each year. [SK170947 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Aug 82]

LIVESTOCK PRODUCTION--While people throughout the country are jubilant over the imminent convocation of the 12th party congress, good news is reported from the livestock production front in Nei Monggol. According to statistics made available by the Regional Statistical Bureau, by the end of June the region had 47.2 million head of livestock, an increase of 1.52 million head over the corresponding 1981 figure. This figure was higher than the previous record in 1980 by 650,000 head. The total number of cattle, horses, camels, sheep and goats stood at 42.4 million, topping the previous record in 1965 by 420,000. Some 26.6 million head of the livestock, 56.4 percent of the total, are owned by the peasants. [SK141052 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 13 Aug 82]

SUGAR OUTPUT--Since the third plenary session of the 11th CPC Central Committee, Nei Monggol Autonomous Region has made marked progress in sugar refinement. According to statistics, the region has turned out 279,000 tons of white sugar over the past 3 years, from which the region has accumulated about 40 million yuan of funds for the state. In addition, the region increased its beet planted acreage from 790,000 mu in 1978 to 980,000 mu in 1981 and its beet output from 380,000 tons in 1978 to 780,000 tons in 1981. The region has planted 1.01 million mu of sugar beets this year. Its beet output is expected to be over 1 million tons. [SK210558 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 20 Aug 82]

CSO: 4007/551

GUIDELINES GIVEN FOR BUILDING SUBURBAN FARMS TO SUPPLY YINCHUAN

Yinchuan NINGXIA RIBAO in Chinese 27 Jun 82 p 2

[Article by Autonomous Region CCP Committee Investigation Unit: "Build Suburban Yinchuan Into a Non-Staple Food Production Base With All Possible Speed--a Survey of Development of Economic Diversification in Suburban Yinchuan"]

[Text] (1)

As a result of the liberalization or rural economic policies, increases in purchase prices paid for farm products, establishment of agricultural production responsibility systems, and readjustment of the internal structure of agriculture in the wake of the Third Plenary Session of the 11th Party Central Committee, simultaneously with continued increases in food production in suburban Yinchuan, definite development has also occurred in forestry, animal husbandry, sideline occupations, fisheries, processing industries, and such economically diversified industries.

In 1981 suburban Yinchuan passed the 100 million jin mark in food production for the first time, to set an all-time high. Despite severe freeze damage done to vegetable production, it fulfilled 79 percent of plansales to the state. Despite reductions in the area sown to oil-bearing crops, increases in yields per unit of area brought an increase over the previous year in total output. Tremendous increases took place in both the area planted to sugarbeets and sugarbeet output, total output increasing by 38 percent over 1980. In 1981 both afforestation and growing of seedlings overfulfilled plan. At the end of the year, large livestock animals in inventory numbered 17,663, a 4.3 percent increase over the previous year. The number of live hogs in inventory decreased by 3.4 percent over the previous year; however, the number of fattened hogs removed from inventory increased by 4.9 percent over the same period during the previous year. Chicken raising and marten raising also saw definite development. During the last 3 years, Yinchuan suburban commune member household sideline occupations have developed fairly rapidly. Throughout the suburbs, a group of specialized households and key households for the raising of livestock and poultry already exist. A representative sampling shows that last year commune member household sideline occupation earnings accounted for a general 20 to 40 percent of gross earnings. At Luhua Fourth Brigade in Luhua Commune, commune member household sideline occupation earnings amounted to more than 70,000 yuan, an average of somewhat more than 1,300 yuan per household or somewhat more than 270 yuan per person and about 60 percent of commune member household gross earnings. Accompanying development of production has been an increase in output of agricultural sideline products. Purchases of agricultural sideline products in suburban Yinchuan substantially fulfilled state plan. Last year, except for purchases of vegetables and fresh eggs, which were less than the previous year, purchases of all other goods increased. Sales of live hogs for the year as a whole totaled 6,384 head, each head averaging an undressed weight of 204 jin, which was the highest undressed weight for fattened hogs sold in the irrigation district. Sheep and goat assigned procurement quotas were fulfilled with 2.693 head for an 18 percent overfulfillment of plan. Seven thousand tons of sugarbeets were sold to the state, making it the only county (or district) in the irrigation district to overfulfill sugarbeet sales quotas.

Though growth has occurred in suburban Yinchuan's economic diversification, speed of growth has not been rapid; kinds of diversification have not been numerous; and development has been also unbalanced from one commune and brigade to another. A trend toward decline still exists in the production of some items. The most prominent problem is 3 consecutive years of decline in production of vegetables. Vegetable sales to the state during 1978 were 103,450,000 jin. In 1979 it was 94.63 million jin; in 1980, 75.48 million jin; and last year only 71.02 million jin, making it impossible to find a solution to the problem of vegetables for the people in the municipality during the slack season in vegetable production. Numbers of hogs, sheep and goats, and chickens raised declined too. At the end of last year, sheep and goats in inventory numbered 56,339, a 1.37 percent decline from the previous year. In 1979 the number of ducks raised increased to somewhat more than 70,000, but declined last year to somewhat more than 10,000. The fish raising area is small and yields low. Last year only 4,500 jin of fish were produced. The foundation for agricultural sideline product processing is frail. Only a small number of communes and brigades in the close-in suburbs operate processing plants for non-staple foods and livestock feeds. Output value from commune and brigade enterprises last year fell by 22.7 percent from 1980. As a result of agricultural sideline products provided the city by state purchases, last year pork sales to the state averaged 13.1 jin per capita; mutton or goat meat sales averaged 0.54 jin per capita, and fresh eggs averaged 1 jin per capita. Quantities of pork, mutton or goat meat, and fresh eggs sold the state by the suburbs as a whole amounted to 14 percent, 6.3 percent, and 6.7 percent respectively of sales by the city as a whole. Supplies of beef, poultry, and aquatic products for state-owned enterprises in the city were virtually entirely dependent on transportation from elsewhere.

(2)

In view of the foregoing, does suburban Yinchuan have the conditions required for the building of non-staple food production bases? The answer is yes. Yinchuan's suburbs have an area of somewhat more than 554,000 mu including almost 210,000 mu of cultivated land, about 100,000 mu that can be cleared for farming, more than 28,000 mu of lakes, more than 34.000 mu of river flats, and more than 50,000 mu of alkaline flats. Following institution of production responsibility systems, about one-third of the workforce is surplus. In the far-out suburbs there are large tracts of land suitable for development of grain and sugarbeet production, the forestry industry, fisheries, and the raising of cattle and sheep. In the close-in suburbs, people are numerous and transportation is convenient, and the city's excrement and residue from its processing industries, and such by-products, may be used for the development of vegetable growing, livestock and poultry raising industries, and processing industries. A very great potential exists for development of economic diversification.

First of all, as far as the farming industry is concerned, sufficient vegetables should be grown to satisfy the needs of the city. Yinchuan's suburbs lie close to the city. It has a plentiful supply of fertilizer and climatic conditions are relatively good, making them suitable for the growing of vegetables. Figured on the basis of the farming area for the suburbs as a whole, between 1976 and 1981, the suburbs provided the state commodity vegetables at an average rate of somewhat more than 6,500 jin per mu. Conditions are particularly favorable for the growing of Chinese cabbage, with yields of more than 10,000 jin per mu being produced between mid-July and the end of October, maximum yields reaching somewhat more than 25,000 jin per mu. Prospects are also very good for the production of vegetables in plastic enclosures during the winter and spring seasons. This plus the learning of advanced vegetable growing techniques and how to store vegetables well during the winter could mean a change in Yinchuan's vegetable shortage during the slack season in production.

Yinchuan's suburbs lie fairly close to sugar refineries, making it easy to get technical guidance and sell sugarcane. There is a lot of land in the far-out suburbs, so development of sugarbeets also offers great advantages. Last year Luhua Fourth Brigade in Luhua Commune grew 300 mu of sugarbeets, most of them intercropped, each household averaging 5.5 mu, producing more than 12,500 jin of sugarbeets for average per capita earnings of more than 100 yuan. Some brigades used scientific intercropping methods, making full use of cultivated land to develop sugarbeet production. The building of a forestry industry has far-reaching significance for the beautification of the city and the suburban environment, for regulating the climate, and for improving the ecological balance. It is also a very important way in which to generate and amass wealth. Lojiazhuang Brigade in Yinxin Commune is a close-in suburban vegetable growing brigade with many people relative to the amount of land. Beginning in 1977, it carried out a vigorous program to plant trees by both the collective and individuals at the same time. Today the brigade has more than 278,000 trees, or 105 trees per capita. Were Yinchuan's suburbs to plant trees and create forests year by year in all the wasteland river flats, ditches and ravines suitable for afforestation, they would play a major role in the promotion of agriculture, animal husbandry and the development of economic diversification. Both conditions and markets exist for melons and fruits, and the growing of grapes and other fruits by commune members' families holds particularly good prospects. It would be a good way both to satisfy the needs of the city and to increase commune member earnings. During the past 2 years, Honghua and Yinxin communes have developed fairly rapidly. If the cultivated area were appropriately enlarged and farming techniques improved, great increases could be made in the quantities of melons and fruits provided the city.

Secondly, a look at the breeding industry shows that large quantities of residues are available for the raising of pigs from beans used to make soybean milk, vermicelli, and soy sauce, from grains used to make alcoholic beverages, and from fruits used to make vinegar. Slop from city restaurants and crushed canes from sugar refineries also make fine food for hogs. Many advanced representative examples have occurred showing the low cost and high benefits obtained from feeding hogs such materials. An example was in the Lojiazhuang Brigade where 365 peasant households of the Han race used the bean dregs and liquid resulting from a nearby bean products plant to feed a total of 1,432 head of hogs last year, or an average 3.9 head per household. They sold their live hogs, weighing a total of somewhat more than 134,000 jin gross weight, or an average 367 jin per household. Last year Luhua Brigade in Luhua Commune used mostly sugarbeet leaves as hog fodder to raise more than 500 hogs, or an average of almost two head per peasant household.

A good foundation already exists in suburban Yinchuan for the raising of chickens. The raising of chickens and the hatching of eggs is already being done on a fledgling scale, and some experience has been accumulated in the raising of chickens. In the urban area business network outlets are numerous; buting, selling, and transporting chicken eggs is convenient; and the breakage rate is low. Already a group of specialized households and key households for the raising of chickens has come into being. Zhi Wancai's [2535 5502 2088] chicken raising household in Lojiazhuang Third Brigade, Yinxin Commune, raised 128 laying hens that layed about 730 jin of eggs between mid-October last year and mid-February this year, which he sold for an income of more than 1,100 yuan. After deducting feed costs, net profit was more than 450 yuan, and he also had 138 mature hens, each with a value of 3.50 yuan for a value totaling 483 yuan. According to estimates from the suburban livestock and animal husbandry station, a single fine variety laying hen will produce about 20 jin of eggs. If suburban Yinchuan with its 550 production teams were to have two specialized households or key households per production team to raise chickens, each household raising about 50 laying hens, the suburban area as a whole would be able to provide virtually the approximate amount of eggs now being provided the city.

In 1978, the Manchun Brigade in Manchun Commune began to operate a milk cow farm, which now has 100 cows and produces about 300,000 jin of milk annually for net earnings of somewhat more than 20,000 yuan. At the Liangqu Tenth Brigade in Luhua Commune, Liu Shenghua [0491 3932 5478] raised 4 milk cows, which produced more than 10,000 jin of milk in somewhat more than 5 months last year for net earnings of more than 1,200 yuan. As a result, milk cow production has actively developed, another important aspect in the increase of non-staple foods to the city. Suburban Yinchuan has numerous water surfaces, having more than 8,000 mu where fish could be raised, most of which are not in use. If fully used, each mu producing 100 jin of fish, output would total between 700,000 and 800,000 jin. For this reason, active support to the development of fish raising is very necessary. Raising of sheep and goats, beef cattle, rabbits, and martens in the suburbs of Yinchuan also holds great promise.

Third, development of processing industries centering on agricultural byproducts is a major aspect of development of suburban Yinchuan commune and brigade enterprises. Right now the foundation is fairly weak in this regard, both agricultural byproduct raw materials and varieties for processing being few. Thus, it is necessary to create conditions for the processing of foodstuffs, vegetables, and livestock feeds. Once conditions have been prepared, Islamic foodstuffs such as canned goods may also be made a part of processing industries.

(3)

Conditions exist for the building of the suburbs of Yinchuan into a non-staple food production base. So how can it be built and developed? We held meetings with suburban, commune, and brigade cadres, masses of commune members and vocational department cadres among whom the consensus was that work in the following several realms should be emphasized:

1. To proceed from the necessity to build a non-staple food production base, and genuinely strengthen leadership for the development of economic diversification for early results. Use of thoroughgoing and painstaking ideological work to indoctrinate suburban cadres and the masses of commune members to make clear the major responsibilities they bear in providing the city with greater amounts of non-staple products, to overcome and reverse the emphasis of close-in communes and brigades on industrial sideline occupations while slighting vegetable production and the tendency of far-out suburban communes and enterprises to pay no attention to economic diversification in an effort to provide more vegetables, meat, poultry, eggs, and such non-staple foods to the city to make a greater contribution to the country. There is a need to fully staff and perfect management organizations and to establish personal responsibility systems, the principal comrades responsible in the suburbs, communes and brigades taking a firm grip on the task of economic diversification, clarifying duties, and devoting attention to implementation level by level. The Municipal CCP Committee and the Municipal People's Government has to consider the building of non-staple food production bases on the basis of realities, giving active financial and material support to the suburbs. All units concerned in the autonomous region and in Yinchuan Municipality should also give direction with a positive attitude, support, coordinate, help and sustain suburban communes and brigades in vigorous development of economic diversification.

2. Adhere to a program of taking the planned economy as the key link and market regulation as supplementary. There should be earliest possible action on the basis of a comprehensive survey and zoning of natural agricultural resources to readjust the structure of agriculture through the adaptation of general methods to specific situations, and to develop all-around plans for agricultural production. Currently, while maintaining a firm grip on grain production, full use should be made of natural conditions and economic resources for the active development of the breeding industry, the farming

industry, and the agricultural byproducts processing industry, particularly the development of vegetable, melon and fruit, sugarbeet, forest tree, hog, sheep and goat, dairy cattle, chicken, duck, and fish production to achieve self-sufficiency in vegetables, with gradual improvement in the self-sufficiency rate for supplies of other agricultural byproducts. Commune and brigade enterprises will have to make major efforts on the agricultural byproducts processing industry and devote any remaining resources to the operation of other industrial sideline industries. Enterprises lacking assurance that raw and processed materials can be provided or enterprises lacking markets for their products should make readjustments for gradual conversion to agricultural byproducts processing industries.

Vegetable production is an important matter bearing on the livelihood of the more than 200,000 residents of suburban Yinchuan that requires a strengthening of leadership and diligent efforts. Communes and brigades already designated to produce vegetables must persevere in making vegetable production paramount, using their major manpower, material, and financial resources on the production of vegetables to insure supplies to the city. The vegetable field area is to be maintained at its present size, and usurpation of vegetable fields for urban construction and commune and brigade enterprises is to be resolutely halted. Vegetable communes and brigades must strictly carry out state plans, individual crop planting areas and quantities being fulfilled, and sales quotas at different times and for different varieties being fulfilled. Production teams and commune members practicing the assumption of full responsibility by individual households are to resolutely carry out contracted sales tasks for vegetables. Communes, brigades, and and commune members that do not carry out plan may, in addition to being criticized and indoctrinated, have their grain rations reduced, be fined, or have other economic action taken against them. When problems arise about vegetable production responsibility systems, attention should be given investigation and study, summarization of experiences, and constant perfection of responsibility systems to solve new problems that arise and to assure that vegetable production develops in a planned way in accordance with needs.

Household livestock and poultry raising industries should promote the experiences of Lojiazhuan Brigade in Yinxin Commune, and continue to adhere to a program of walking on two legs with both collective raising and raising by individual commune members. Commune and brigade operated farms concentrating on the breeding of stud livestock and stud poultry should do a good job of breeding and hatching, actively serving commune members in developing breeding industries, placing the emphasis for breeding on commune member households. There is to be active promotion of contract systems with indoctrination of commune members in concurrent concern for the welfare of the country, the collective, and individuals, material and spiritual encouragements and rewards being given those who fulfill contracts, and indoctrination and punishment being meted out to those who do not carry out agreements.

3. Energetic development of specialized households and key households to energize the broad masses of commune members in launching economic diversification. Development of specialized households and key households

for the breeding industry and farming industry with little investment, for quick results and great benefits is a new way to hasten the building of non-staple food production bases in the suburbs of Yinchuan, and should be vigourously encouraged. The suburbs should have short-term and long-term development plans for specialized household production, and should use the signing of contracts to make specialized household production gradually become a part of commune and brigade non-staple agricultural production plans and state procurement plans. Specialized households should be permitted to use the specialized products they produce to fulfill their obligations to the state and to pay the collective various withholdings. If specialized households desire to contract the production of other items, they may, like other commune members, contract for them. If they do not want or lack resources to contract for other items, production teams may make appropriate readjustments on the masses of the scope of items being produced and individual desires so that their major energies are devoted to specialized production.

4. A good job of procurement work and keeping open procurement and marketing channels are major links in advancing the development of economic diversification. Business units are to actively support development of economic diversification and do procurement work well. In pricing policies, they are to maintain socialist business standing with no disparagement of quality in order to depress the price to be paid, or no upgrading to increase asking prices. Products not covered by agreements may be permitted to be handled as producers see fit. Effective measures should be taken to resolutely strike down and suppress "chiselers" who speculate and profiteers.

5. Active promotion of the application of science and technology to improve levels in economic diversification. At the present time suburban Yinchuan is still fairly backward in this regard and unable to meet needs for development of economic diversification. All-around processing and use of livestock feeds and fodders, breeding and promotion of fine varieties, processing, storage, and transportation of agricultural byproducts and such problems are in urgent need of solution. Thus, farm, forestry, and animal husbandry departments in the suburbs should strive to meet the new rural situation, establish personal responsibility systems, place work emphasis on the grassroots level, gear to the needs of communes, brigades, and the myriad commune member households, operate study classes and rotational training classes for specialized households and key households, and select linked households and demonstration households for a combination of representative demonstrations and wideranging propaganda, and a combination of traditional agriculture and advanced techniques, adapting general methods to local situations for the promotion of new techniques and new experiences in economic diversification. Yinchuan City and its suburbs should jointly run a vegetable research institute, and actively launch research and promote techniques for vegetable production and storage. Autonomous region and Yinchuan municipal farming, forestry, animal husbandry, and aquatic products scientific research and vocational departments should regard as part of their jobs suburban Yinchuan development of economic diversification and the building of non-staple food production bases. They should lend support and direction to suburban pilot projects and demonstrations on vegetable production and economic diversification so that science and technology blossom everywhere in the development of economic diversification in suburban Yinchuan.

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BRIEFS

PROVINCIAL AGRICULTURE PROGRESS--Agricultural, industrial and sideline production in Shandong Province has made rapid progress. In 1981, the province had a grain output of 1,204 jin per mu, an increase of 260 jin per mu over 1980. Total income in 1981 was 361,600 yuan, an increase of 15,640 yuan over 1980. Per capita distribution was as high as 215 yuan, an increase of 35 yuan over 1980. Despite the drought condition this year, the province still reaped a bumper harvest of wheat. It sold 240,000 jin to the state during the first quarter of 1982, overfulfilling its quota for the entire year by over 10 percent. Per capita consumption of wheat is more than 250 jin. This is a good result of carrying out the responsibility system on a large scale. [Excerpt] [Jinan DAZHONG RIBAO 9 Aug 82 p 1]

SHANDONG WHEAT OUTPUT--Despite a continuous drought and hot dry wind and the loss of relatively large harvested areas, the wheat production in Shandong Province is better than projected. Dezhou, Liucheng, Heze, Jining and Lingyi prefectures all had increased output over 1981. The total output of wheat in the province's 123 counties, municipalities and prefectures is over 40 percent more than in 1981. More than 10 counties had a total output increase of over 30 million jin, and more than 20 counties had an average increase of over 100 jin per mu. [Excerpt] [Jinan DAZHONG RIBAO 8 Aug 82 p 1]

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HARVESTING COMBINES WIDELY INTRODUCED INTO SHANGHAI SUBURBS

Beijing ZHONGGUO NONGMIN BAO in Chinese 22 Jul 82 p 1

[Article: "Suburban Shanghai Rural Villages Begin To Realize "Responsibility Systems With Mechanization. With Use of Combines, Commune Members Will No Longer Have To Do the 'Three Stoops'"]

[Text] During this year's summer harvest at Pengchao Brigade in Jiading County of suburban Shanghai, which has instituted specialized contracting in a responsibility system that links output to workforces, after taking samples to monitor output and obtaining the agreement of commune members, two combines were brought in. In less than half a day's time, harvesting and threshing were finished, and after weighing the grain on the spot and converting to dry grain equivalent weight, yields were found to average 544 jin per mu, 50 percent more than last year. Commune members said joyously, "Formerly it was the 'three stoops' that were most tiring, but now harvesting and threshing are all done at once, and we want this kind of responsibility system with mechanization!"

"Responsibility system with mechanization" is the common cherished desire of the broad masses of Shanghai suburban peasants. Since the Third Plenary Session of the 11th Party Central Committee, accompanying the all around development of agricultural sideline occupations has been a net decrease in agricultural workforces. Last year net agricultural workforces in Shanghai's suburbs amounted to only 56.4 percent of total available workforces, and 62.1 percent of these were female members of the workforce. Though each person is responsible for the farming of an average of only slightly more than 3 mu, the multiple cropping index is as high as 240 percent. Peasants who practice the linking of output to workforces generally reflect the intensity of labor when they say, "Responsibility systems are fine indeed, but the exertion is sometimes hard to take."

Practice has made leaders at all levels in suburban Shanghai come to the realization that general mechanization on a foundation of responsiblity systems is both a necessity in continued maintenance of the fine tradition of intensive farming and a necessity for stabilizing and perfecting agricultural production responsibility systems. It was for this reason that they actively ran pilot projects at Malu Commune in Jiading County and at Lodian Commune in Baoshan County. Beginning last year, they used accumulations from agriculture itself for the large-scale introduction of combines, which are most needed in agriculture and which reduce labor intensiveness most strikingly. As of this spring, 10 counties in the prefecture had introduced 362 combines for an average of 2 per commune. When these harvesting combines were used in conjunction with existing machinery, the intensity of commune member labor during the very busy season was greatly reduced, and the "foot dragging fields," and "tail end fields" that dragged out the farming season were eliminated.

The practice of a "responsibility system with mechanization" in Shanghai's suburbs has already demonstrated its superiority in three regards. One is promotion of the stability and perfection of responsibility systems. In some production teams practicing the linking of planned output to workforces, the conflict among individual households during the harvesting season for use of threshing grounds and threshing machines had been very pronounced. But with harvesting combines, the real strength of the collective has been increased. Everything that lends itself to centralization is centralized, and production team heads no longer need to have "headaches" about arrangements for use of threshing grounds and threshing machines. For some production teams in which responsibility systems could not be instituted because of the large amount of land relative to population, through the boost that mechanization has provided, responsibility systems have been very quickly instituted. A second is promotion of a beneficial cycle in agricultural sideline industires and their coordinated development. Agriculture can steadily support industrial sideline occupations with workforces, and industrial sideline occupations can, in turn, steadily provide agriculture with accumulations of funds. The path of coordinated development of agricultural sideline industries becomes wider and wider. Third is a fundamental reversal in the trend toward departure from agriculture. Commune members say happily that with an increase in mechanization, the 'three stoops' have been solved. Working the fields is more or less like working a factory, and we have no desire to go into enterprise units. Today in Lodian Commune, Baoshan County, where the largest number of combines have been introduced, the "extremely busy season is not busy," and commune members who farm go to movies as usual, their per capita distributions averaging 350 yuan, not much different from commune members who are engaged in industry. As a result, they are universally content to farm.

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BRIEFS

RAINFALL IN SICHUAN BASIN--Beginning on 15 August, heavy and torrential rains have fallen on the western part of the Sichuan Basin, including Wenjiang, Leshan, Yaan and Mianyang Prefectures and Chengdu Municipality. These torrential rains centered around Shifang, Xinjin, Shuangliu, Qionglai, Pengshan, Renshou, Leshan and Jingyan counties. Up to 1600 on the 16th, 42 counties had received over 50 millimeters of rain. Among them, 14 counties had 100-264 millimeters of rain, and Renshou County's (Gongnongchuan) had the most rain--264 millimeters. This time, the rains fell over a vast area and with relatively great intensity. In Rongxian County's (Xinqiao), 88 millimeters of rain fell in 2 hours and 136 millimeters in 6 hours. The water levels of the Minjiang, Tuojiang, Qingyijiang and Fujiang Rivers are rising. The water levels of the Minjiang and Qingyijiang have already exceeded the warning marks. At present, the flood season is not yet over. All localities should do a good job in guarding against floods and controlling water. [Text] [HK181228 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 18 Aug 82]

CSO: 4007/551

NEW-STYLE ECONOMIC COMBINES DISCUSSED

HK160327 Kunming YUNNAN RIBAO in Chinese 2 Aug 82 p 2

["Work Research" column by Zheng Yanshi [6774 6056 1395]: "Correctly Understand and View the New-Style Economic Combines"]

[Text] In the development of the production responsibility systems in rural areas, especially in those areas where the system of assigning households full responsibility for task completion has been practiced, a new trend of economic combination has appeared among the commune members. This kind of economic combination takes various forms. There are combinations or certain production elements, certain production links and certain production (or business) items. Some of them are temporary and some are relatively regular. There are multibrigade and multicommune combinations and combinations of commune members and residents in towns and cities. A peasant household may be engaged in several combinations at a time. The emergence of these new economic combinations taking various forms has added new vitality to the enlivened rural economy.

These activities of economic combination, which are extensive and varied, have naturally given rise to a number of new-style economic combines, which are economic entities relatively independent of the collective economy of the communes and brigades and are voluntarily and freely established by commune members with the participation of several households. The funds for these combines are collected and the equipment purchased all by the participants themselves. They work together, carry out independent accounting and assume sole responsibility for their profits and losses. For example, three commune members, (later developed to five households and nine laborers) Deng Liangshi, Tao Renbin and Wang Bangming in the Taojiawan production team of the Haozhi brigade, Xinglong commune, Yanjin County, each of whom collected and contributed 30 yuan, jointly run a small factory to produce flues, which are used in producing flue-cured tobacco. Since it went into operation last November to the end of May this year, it has gained an income of 8,015 yuan by selling 17,000 of its products. After deducting 2,856 yuan for accumulation and production costs, 5,159 yuan was distributed among the participants. On average, each participant created a value of 4.3 yuan on each working day. Such economic combines have now appeared everywhere.

At present, since the new-style economic combines are still at their initial stage, they are small, scattered and unstable. Most of their businesses are within the range of industrial and sideline production, having a purpose of serving agricultural production (including the diversified economy) and the livelihood of the masses in their localities.

As soon as these economic combines came into being, they displayed their advantages. They were vividly summed up by the masses of people who said that in these combines, "shares are bought voluntarily and suggestions are made by all. Work is done well and the management is good. The products are marketable and distribution is made according to work." These economic combines are usually small and flexible. They often do things in a simple and thrifty way, using available local resources. Since the economic makeup and management methods are simple, the investment is usually small but economic returns are quick and economic benefits are more direct. The members of the economic combines are owners of these combines and at the same time, managers and laborers. There are no such problems as "eating out of the same big pot" or the "iron rice bowl," and every participant has to work hard. Thus better economic results are usually achieved.

The economic combines are advantageous to making full use of natural and manpower resources and idle funds so that they can be changed into new productive forces. They are also advantageous to giving full play to the roles of skilled craftsmen so that the technological level in the countryside can be raised under their guidance. They are good for the development of the diversified economy and commodity production in the light of the local conditions so that the rural economy can be stimulated and the peasants' livelihood can be improved. They can satisfy some of the pressing demands of the masses in their present production and livelihood and promote the future development of the rural economy along the orientation of specialization and socialization.

On the other hand, we must also recognize that since these combines are only a kind of economic organization which is collectively owned and jointly run by a small number of peasants, they usually concentrate their attention on their partial and immediate interests and put profit-making first. Blindness in production and business can easily occur. Sometimes, they may even sabotage state planning and damage the interests of the state and the interests of communes and brigades. If leadership is not exercised over them, they may easily rush headlong into action, disperse in a hubbub and perish of themselves. These are limitations and shortcomings of the economic combines.

The emergence of the new-style economic combines after practicing the system of assigning households full responsibility for task completion was not a chance phenomenon. It is an example showing the emancipation of productive force since the great readjustment of production relations in the countryside. After the system of assigning households full responsibility for task completion was practiced in many production teams, the commune members felt that they "had enough food to eat, but had not enough money to spend." They became anxious to develop a diversified economy so that the surplus labor could find a way out and they could gradually become well-off. However, since many businesses cannot be run individually or by only one household, the new-style economic combines, which are called "gathering together in business" by the masses, have emerged as the times require. This is a result of the role of the objective economic law which requires that production relations suit the development of productive forces. It is also a concrete expression of the creativeness of the masses of peasants.

The new-style economic combines are new things which have emerged at present in the countryside. They have posed a series of new theoretical and practical problems which need to be studied and solved. What is our correct attitude in understanding and viewing these problems? We would like to offer our following initial opinions.

1. The new-style economic combines among the commune members are new economic formations which are collectively owned and jointly run by the laboring masses. They are a new component part of the socialist collective economy in the countryside. Therefore, we must encourage, guide and help them to develop and must adopt a policy of enlivening these combines so that they will play an active role in the development of the rural economy.

2. While encouraging the development of the new-style economic combines, the commune and brigade economies must not be neglected or weakened. It is necessary to forcefully help the communes and brigades run collective industrial and sideline enterprises well and prevent the new-style economic combines from damaging the collective economies of communes and brigades through appropriating or purchasing commune and brigade property at a low price.

3. In principle, the new-style economic combines and commune and brigade enterprises must be equally treated in terms of rights and duties, such as tax payment and loans. When the economic combines need to use state and collective material resources, they must be charged necessary fees. Sabotaging the material resources of the state and the collectives is not allowed. Besides, it is also necessary to handle well the relations between the economic combines and individual producers in rural areas, preventing the trend of merely encouraging individual producers and restricting economic combines. We must let them have equal opportunity to develop and give play to their advantages.

4. Referring to leadership system, the new-style economic combines among the commune members must be under the leadership of the local government. Before government administration and commune management are separated, communes and brigades in the respective localities must take charge of the leadership work. The administrative departments of the commune or brigade enterprises at various levels must, according to the requirements of the relevant documents of the provincial people's government, take the work of the economic combines as their own work and give them concrete guidance. They are required to help the economic combines overcome difficulties in production, supply and marketing, improve their management and constantly improve their processing techniques with local resources so that the diversified economy in the countryside can be further developed. They must help

them produce more inexpensive and good commodities, tap new sources, open up new markets and improve their service so that their economic forces can be gradually expanded and the range and quality of their production can be developed. It is necessary to strengthen the ideological and political work and make the combines abide by state policies and decrees, accept the guidance of state planning, give consideration to the interests of the state, the collective and individuals and distribute according to one's work. It is also necessary to give guidance to their arrangements and economic activities by means of various economic levers and contract systems so that such things as duplication of the same trade can be avoided and the economic combines can develop healthily along a correct path.

CSO: 4007/551

BRIEFS

FERTILIZER SHORTAGE--Participants to a recent provincial conference on fertilizer work made some recommendations on solving the current fertilizer shortage for Zhejiang's late rice crops. They noted that organic fertilizer is about one-third short and that the supply of chemical fertilizer is also less than last year. They suggested that every peasant household should accumulate organic fertilizer and that chemical fertilizer should be used rationally. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 10 Jul 82]

FEED INDUSTRY--The Zhejiang Provincial Food Department recently held a province-wide conference on the feed industry. From 1979 to 1981 the province made arrangements for the construction of 40 feed processing plants. As of now, 25 of them have been completed and put into operation. And 14 others will be put into production in the near future. About 29 million jin of mixed feed were produced in 1979 throughout the province, but the output rose to 400 million jin in 1981. The provincial people's government has drawn up a plan for building 120 feed processing plants within the next 3 years. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 1 Jul 82]

CSO: 4007/551

Cotton Yields

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ORG: SHI, JIANG of Institute of Crops, Shanghai Municipal Academy of Agricultural Sciences; SHEN of Shanghai College of Agriculture

TITLE: "On the Relationship Between Changes of Ecological Condition in Shanghai Suburbs and the Yield Reduction of Cotton"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 5 Aug 82 pp 1-4

ABSTRACT: Since the unit yield of cotton of the 1.40 million mu of cotton acreage of Shanghai suburbs successfully reached over 100 jin in 1964, the yield has been high but not stable, varying from 169 jin of 1978 to 91 jin of 1977 historically and from the 198 jin of the highest county to the 56 jin of the lowest county geographically. Following an analysis of the conditions of land, rainfall, temperature, daylight, typhoon, diseases, and pests, the paper concludes that of all the ecological conditions, the effect of the weather condition is the greatest. A mathematical model: $\hat{y} = (x + \Delta x) \times (1 - \eta)$ to demonstrate the relationship between the yield potential $(x + \Delta x)$ of a given year and the rate of yield reduction due to unfavorable ecological factors (η) is explained. Finally, the paper proposes the 3 measures of increasing the layer of mature topsoil to 20-25 cm to promote root development, improving drainage to activate soil fertility, and encouraging early development to increase the weight of cotton bolls, to counter the variable ecological conditions.

6248
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TITLE: "Actively Help Commune Members Manage and Use Private Mountains Well"

SOURCE: Beijing ZHONGGUO LINYE [FORESTRY IN CHINA] in Chinese No 7, 17 Jul 82 pp 13-14

ABSTRACT: Last year, the Laiwu County Committee and government of Shandong Province issued forest rights certificates at an assembly of all the county's 15 communes (towns). It is clearly stipulated on the certificate that the private mountain is owned by the collective body and its sale, lease, and transfer are not permitted. It may only be used for afforestation or raising saplings and cultivation of anything else is not allowed. Trees planted by a commune member belong to that member perpetually and his sons and daughters will be permitted to inherit them. Forests of private mountains are protected by the law same as those belonging to the State and collectives. These certificates removed the worries of those members who contributed saplings, money, and labor to afforest those mountains. The county has 900 thousand mu of land suitable for afforestation; of these 710 thousand mu were managed by communes and brigades. Last year, all this acreage was readjusted and 387 thousand mu of which that had better trees were retained by the brigades and 184 thousand mu of which that were not in very good condition were given to the production teams which in turn divided 138 thousand mu to the 53 thousand memberhousehoods. These private mountains given to the members were all barren. After

[continuation of ZHONGGUO LINYE No 7, 1982 pp 13-14]

this readjustment, the key problem was to help the commune members to do a good job of afforesting these barren mountains, which amounted to 19 percent of all the land of the county suitable for growing trees. Aside from issuing certificates to ease the mind of the members, the county provided 2 million saplings, set the standard of land preparation and planting quality, and organized for guidance and inspection. These measures proved to be very effective, and so far 75 thousand mu of the 138 thousand mu of private mountains have been prepared and 51 thousand trees have been planted. The successful afforestation project in Laiwu County of Shandong Province is reported in the paper.

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CSO: 4011/206

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TITLE: "An Effective Way of Late Rice Breeding-- Sub-Xian-Geng Hybrids"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 8, Aug 82 pp 1-3

ABSTRACT: After many years of repeated exploration and practice, the authors have summarized and found 2 effective ways of hybridization to breed late rice: the sub-xian-geng hybridization method and the method of interspecific hybridization of varieties of different ecological types. This paper reports the first of the two only. Since 1972, the authors have successfully experimented with the technique of crossing breeds containing Xian and Geng cytoplasm first before crossing the hybrid with either Geng or Xian to overcome the problem of sterility of F1 and F_2 Xian-Geng hybrids. With this technique, from the initial crossing to stabilization, 6 generations are sufficient to produce a new breed. For the convenience of expression, the authors call this type of new breeds, sub-xian-geng. With this technique, the sources for hybridization are greatly enlarged and the current problem of narrow genetic foundation of late rice hybrids may be resolved. Problems still exist with respect to selection of the hybrid offsprings, however, and it remains a difficult task to breed out ideal new varieties having the merits of both Xian and Geng types.

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TITLE: "Expressions and Selection of F_2, F_3 of Triticale-Wheat Hybrids"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 8, Aug 82 pp 4-8

ABSTRACT: The author and colleagues have reported in a previous paper that according to their observation in 1980, the F_1 of triticale-wheat hybridization is sterile when paper bags are used to insure self-fertilization, but when it is left open for free fertilization, it will fruit to expand the genetic foundation. In 1979-81, hybrid offsprings of triticale-wheat were again left to proceed with free pollination, fruiting, and segregation and in some cases the hybrid offsprings were purposefully backcrossed and selected for the purpose of observing the expressions and the results of selection. Such expressions as disease resistance, high yield property, maturization period, fruiting rate, etc. are described.

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TITLE: "An Analysis of Wheat Breeds Used in Huanggang Prefecture"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCE] in Chinese No 8, Aug 82 pp 9-11

ABSTRACT: In a normal year, the wheat acreage in Huanggang is about 2.5 million mu. In the 33 years since the liberation, with the changes of production condition and the development of productivity, there have been 2 major events in the use of wheat breeds in the prefecture: the extension of Nanda-2419 in 1956 and the extension of Omai No 6 in 1974; both brought important yield increases. In 1979, the average yield of the prefecture reached as high as 360 jin/mu. There have been yield decreases in the past 2 years, however, due to severe powdery mildew of Omai No 6 and serious degeneration of seeds. The high incidence of rust and powdery mildew and the attempt of obtaining high yield from both crops of cotton and wheat dictate the need of using dwarf wheat breeds that are more fertilizer tolerant and lodging resistant than Omai No 6, which is urgently in need of revitalization. Moreover, all the wheat breeds currently being extended in the prefecture, such as Omai No 6, 48130, 69-13-3, 2133, 31761, etc. are all related to Italian wheat. The genetic foundation is narrow and disease resistant genes are not sufficiently rich. Expanding the breed resources is very important if the yield of wheat in the prefecture is to improve.

6248
CSO: 4011/214

AUTHOR: YU Zheng [0151 1513]

ORG: Shaanxi Provincial Science and Technology Committee

TITLE: "Opinions Concerning the Soil and Water Conservation Work in Northern Shaanxi"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 1-5

ABSTRACT: Soil loss due to erosion is extremely severe in the loessial plateau of northern Shaanxi, affecting an area of 67 thousand km^2, amounting to 81.9 percent of the total area of northern Shaanxi. The soil erosion modulus reaches 10 thousand tons/$km^2 \cdot$ year. Every year, as much as 6.7 hundred million tons of sand flows into Huanghe from this region, amounting to more than 40 percent of the added silt in that river. The resultant thin soil and drought cause the level of agricultural production of the region to be low and unstable to form a drag on the economic development of the province and to cause the river to be more and more a threat to the lives and properties of its lower reaches. From 1954 to 1980, 8 billion yuan was spent on soil and water conservation of this region, not including afforestation. Many dikes have been built, washed away, and rebuilt and about 3.5 million mu of fields have been terraced, etc. Some believe these projects have not reduced the amount of sand going into Huanghe. This is obviously the result of the destruction of forest and the inferior quality of some engineering structures, but the

[continuation of SHUITU BAOCHI TONGBAO No 3, 1982 pp 1-5]

very fact that the sand content of Huanghe has not been increasing is a great achievement of these works. Others maintain that the cultivated acreage must be preserved to guarantee the yield of grains and are against the attempt of restoring the forest vegetation. They do not understand that the most reliable way of establishing a new ecological balance to resolve the problem of grain shortage is to practice a combination of farming, forestry, and animal husbandry. The paper seeks to justify soil and water conservation projects as well as to explain in detail the scientific and reasonable ways of proceeding with future conservation projects.

AUTHOR: HE Yubang [6320 3768 6721]

ORG: Shaanxi Provincial Bureau of Water and Soil Conservation

TITLE: "Major Factors for Speeding Up [Erosion] Control"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 6-12

ABSTRACT: Since the liberation, erosion control has been carried out over 35.2 thousand km^2 in Shaanxi, amounting to 25.6 percent of the area suffering from soil and water loss, and averaging a speed of control of 1 percent/year. Construction of terraced, diked, raised, and sandbank fields was complete for 11.43 million mu, amounting to 25.9 percent of the province's slope land and the average speed is also only 1 percent per year. Due to various reasons, serious soil and water conservation work was carried out in only 15 of these 30+ years, in areas of more than 1,000 km^2 per year. In these 15 years, work was done in 2,000 km^2 in 10 years and 2,500 km^2 in 5-6 years. Thus, only in 7 years, the area of control amounted to more than 1.5 percent of the area of erosion and more than 2 percent in 3 years only. The best years were 1972-73, with 2.7 and 2.3 percent respectively. The average progress of the 50's is 1.3 percent; of the 60's 0.8 percent, of the 70's 1.1 percent, of the 80's 2 percent, to indicate a general tendency of fast-slow-fast. The speed of erosion control in the province must be quickened. It is entirely possible to deal with 2,800-3,200 km^2 per year to eliminate erosion in the province in 25 to 30 years. A good way of doing this is to control small drainage basins first and to combine the use of vegetation with engineering projects, with more than 60 percent emphasis on the former.

AUTHOR: None

ORG: Shaanxi Provincial Bureau of Water and Soil Conservation

TITLE: "Report of An Inspection Tour of Parts of the Changjiang Valley in Southern Shaanxi"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 12-17

ABSTRACT: Following the flood disaster of 1981 in western Sichuan and southern Shaanxi, the problem of preventing Changjiang from becoming the second Huanghe has been the concern of all the peoples of the country. The National Agricultural Committee ordered the Changjiang Valley Planning Office to dispatch specialists, professors, and scientists to carry out comprehensive surveys in 4 teams for Yunnan and Guizhou, Hunan and Jiangxi, Hubei, Henan, and Anhui, and Shaanxi, Gansu, and Sichuan. This paper reports the portion of the survey carried out by the 4th team in 29 counties of southern Shaanxi, covering an area of 74 thousand km^2. Flood and erosion damages observed by the team are detailed. The paper also discusses the causes of the disaster and suggests water and soil conservation measures for reconstructing the region and for preventing further erosion.

AUTHOR: ZHANG Liming [1728 0448 6900]

ORG: Shaanxi Provincial Bureau of Water and Soil Conservation

TITLE: "A Survey of the Disastrous Flood in South Shaanxi in 1981"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 21-25

ABSTRACT: In Jul and Aug 81, there were continuous heavy rains in the southern parts of Shaanxi to cause gigantic damages from floods, mudslides, landslips, rock flows the mountainous and plain regions alike. The area of southern Shaanxi has had frequent floods in recent years. The prolonged high volume autumn rains are the direct cause, but there are also the problems of lack of unified planing for controlling the rivers, the poor quality of the engineering structures, etc. Judging from the macrophenomenon, the abusive destruction of forest vegetation to create cropland is the important factor leading to the increasing severity of erosion and flood calamities. The paper summarizes the natural factors contributing to soil and water loss of the area, namely the water, the soil parent material,and the slanted terrain,and the human factors which exacerbate the situation, namely cultivating crops on steep slopes, destroying water nourishing forests, constructing plants, roads, and mines without considering water and soil conservation, etc. Some basic and comprehensive measures of water and soil conservation are proposed as the fundamental method for reducing drought and flood damages.

AUTHOR: FU Xizhen [0265 6932 3791]

ORG: Baoji Municipal Bureau of Forestry, Shaanxi Province

TITLE: "The Function of Forests in Controlling and Conserving Water"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 54-56, inside back cover

ABSTRACT: Heavy rains fell in Feng and Taibai counties in the period 14-22 Aug 81 to produce the greatest flood disaster in the history of that region. By 28 Aug, dozens of persons were killed and several were still missing. The homes of more than 20 thousand were lost, and 100 thousand mu of the 280 thousand mu of cropland in Feng County were totally destroyed, in addition to the damages to railroads, highways, bridges, power transmission lines, dams, factories, dormitories, hospitals, schools, etc. This was a cruel punishment inflicted by nature on the people of China for destroying the forest vegetation and converting the land into mines, roads, and fields. The water controlling and conserving action of forests cannot be replaced by crop plants and engineering structures. This paper explains the water controlling and conserving action of forests in some detail. The paper also suggests enactment and strict enforcement of laws to protect forests.
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AGRICULTURE

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MINISTRY OFFICIAL EMPHASIZES IMPORTANCE OF AUTUMN HARVEST

Beijing ZHONGGUO NONGMIN BAO in Chinese 8 Jul 82 p 1

[Article: "Work Ceaselessly and Unremittingly To Win a Bumper Agricultural Harvest for the Year as a Whole. Ministry of Agriculture, Animal Husbandry, and Fishery Responsibile Person Makes Statement to Newspaper's Reporter"]

[Text] Now the summer harvest is in, and the fall crops are at a crucial time in their growth. How to work ceaselessly and unremittingly to win a bumper harvest for the year as a whole, and to fulfill quotas for increased agricultural output for the year as a whole is a problem that concerns all. A responsible person in the Ministry of Agriculture, Animal Husbandry, and Fishery made a statement on this subject to the newspaper's reporter as follows:

Despite the natural disasters of severe drought and hot dry winds that beset the country's agricultural production during the first half of this year, thanks to the broad masses of rural villages having assiduously carried out CCP Committee Document No 1 for the further implementation and perfection of agricultural production responsibility systems, a fine grain and oil-bearing crop harvest was realized. A look at actual circumstances shows the summer grain crop to have been better than anticipated, with total output nationally approaching last year's levels. Jiangsu, Anhui, Sichuan, Hubei, Zhejiang, Shanghai, Shaanxi, and Gansu all had increased output; Hebei and Henan had either the same or slightly decreased outputs. Output to rapeseeds went on from 3 consecutive years of bumper harvests to reach an all-time high. Spring and summer sown crops were planted earlier than last year, and in North China autumn-harvested crops grew rather well. In South China, early and intermediate rice grew better than last year. Economic crops such as cotton, soybeans, and peanuts grew better than last year.

However, since the beginning of June, rainfall has been early and fairly concentrated in South China, and in some places torrential rains have caused disasters, badly hurting the early rice crop. In some parts of North China summer drought advanced, and in still other places disease and insect pest infestations have been very serious. Consequently, the urgent task that now confronts us is further carrying into effect of the program of "positively no relaxation in grain production while actively developing economic diversification," going all out, working ceaselessly and unremittingly, further stabilizing production responsibility systems, more fully stirring the enthusiasm of the broad masses of cadres and people, devoting intense attention to field care of crops to be harvested in the fall, working hard during July, August, and September, using every available means to win a bumper harvest for the year as a whole and striving to fulfill increased in production quotas for the year as a whole. In order to do this, it is necessary right now to give attention to efforts of the following several kinds:

1. Further Mental Arousal. Autumn is the main season in agricultural production in China, both the area planted to fall grain and output amounting to two-thirds the annual total, the economic crops being harvested mostly in the fall as well. During the past 10 years, summer grain production has developed fairly rapidly and consistently for an average annual incremental increase of 5.9 percent, while the annual incremental increase for autumn harvested grain crops has averaged only 2.1 percent. Autumn grain production is low and inconsistent, impairing the speed of agricultural development. This year's state plan calls for a grain output increase over last year of more than 17 billion jin. Inasmuch as the summer grain harvest did not reach target goals, autumn grain output quotas have been increased. In present terms, fulfillment of this quota will be conditional upon the following: First is high enthusiasm on the part of the masses, and second is a good fall crop growth in most places. In the time remaining, only if the right actions are taken can output from the autumn harvested crops hold great prospects. All jurisdictions are to clearly explain to the broad masses the importance and the arduousness of winning a bumper harvest for the year as a whole so as to overcome the blind optimism and lackadaisical feelings that exist in some places, to direct the enthusiasm of the cadres and masses to taking a firm grip on autumn production to win a bumper harvest for the year as a whole.

2. Take Firm Hold on Crucial Actions to Increase Output. Good planting is the foundation, and care is the key. Practice has shown that care or no care makes a big difference. With good care, weak seedlings become sturdy seedlings, and sturdy seedlings become more sturdy. With poor care, good seedlings become poor seedlings. The principle of adaptation of general methods to local situations has to be followed using tailored guidance to carry out scientific care that is pertinent. In South China, efforts must be continued to be directed toward late stage care of early rice, and to mid and late stage care of intermediate rice and cotton. Additionally, it is necessary to do a good preparatory job for late rice in a two crop system in an effort to win new breakthroughs from late rice. The area planted to early and late rice is more or less equal for the country as a whole, yet total output from the late rice crop is more than 2 billion jin less, largely because of late transplanting, insufficient fertilization, and much damage from diseases and insect pests. This year all jurisdictions are to focus on problems existing in late rice crop production and increase measures taken to strive for high and consistent yields. In North China

it is necessary to educate a small number of cadres and masses in the need to overcome their mentality of "emphasizing the summer and slighting the fall;" in addition to devoting attention to the spring sowing of grain and cotton crops, they must also take firmly in hand late autumn crop production. As a result of the severe drought during the previous period, growth of late autumn crops has been particularly uneven; consequently, major efforts have to be made to provide early and intensive care to bring early ripening so as to prevent or avoid early frost damage.

3. Vigorous Launching of Technical Service Work. Following the institution of production responsibility systems, in order to win high yields, among the broad masses of peasants everywhere a craze for studying science and using science appeared. Agricultural departments everywhere should vigorously launch technical service work, further implement and develop technical contract agreements, establish technical consulting sites, train peasant technical personnel, arrange peasant household scientific farming demonstrations, and print technical materials to get into the hands of the myriad peasant households effective measures for increasing yields as well as scientific techniques. Farm technical personnel should not only operate at key points but should also promote work over a wide area to promote increased yields over a wide area.

4. Take a Firm Grip on Production in Medium and Low Yield Areas. The area of China sown to spring and summer crops is more than 1 billion mu. With the exception of a portion that contains high yield fields, a considerable part of this area is medium and low yield fields. Practice has shown that the potential in this part is very great. In addition to giving attention to making high yield fields into mainstay fields with increased yields, all jurisdictions are to devote efforts to medium and low yield fields, intensify care, and direct the main attack against yields per unit of area to promote even production.

5. Make a Stand on Resistance to Disasters to Win a Bumper Harvest. It is during the growth period for autumn harvested crops that damage from various natural disasters is most frequent; thus, it is necessary to stand fast against disasters to win a bumper harvest. Weather forecasts for mid-summer this year call for an overly large amount of rain in the upper reaches of the Chang Jiang, in the Huai He Basin, and in the lower reaches of the Huang He, with flooding and waterlogging occuring in some places. In North China and Northeast China, rainfall will be less than usual, the drought continuing. In some parts of the area south of the Chang Jiang, summer drought may occur. Thus, it is necessary to make multiple preparations to prevent or combat disaster mentally, with actions to be taken, and with materials to be used, as well as to bolster monitoring and forecasting of diseases and insect pests in an effort to reduce to the minimum damage caused by natural disasters. In places where summer grain yields are reduced by disasters, in particular, full preparations should be made to combat disastesr to win a bumper harvest for the year as a whole so that the autumn harvest will make up for the summer harvest.

6. Strengthening of Leadership. During the period when a bumper autumn harvest is being harvested, there is much farm work to be done and time is short. In rural villages, organizations at all levels must strengthen leadership and make overall arrangements to take firmly in hand as the central task in rural villages the winning of a bumper harvest for the year as a whole. All levels of agricultural departments should diligently change their workstyles, go down into the grassroots levels, investigate and study, give attention to providing for the livelihood of the masses, and promptly report to units concerned problems existing in production such as shortages of fuel, electricity and needed fertilizer, and win the support for agriculture of all trades and industries in order to make a contribution to the reaping of a bumper harvest for the year as a whole.

There is still some time before the autumn harvest, and the room for maneuver is still very great. If only our mentalities are emancipated and we take a firm grip on each production link, do a solid job of field care, taking hold of every link and holding fast to it, we will be able to do a good job of autumn production and win a bumper harvest in agriculture for the year as a whole.

9432
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CRUCIAL IMPORTANCE OF SCIENTIFIC FARMING UNDERLINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 11 Jul 82 p 1

[Article by Yao Yilin [1202 0181 2651]: "Vigorously Raise Levels of Agricultural Science and Technology for In-depth and In-Breadth Progress in Production"]

[Text] Development of China's agriculture has to rely on policies and on science. The policies that have followed from the Third Plenary Session of the 11th Party Central Committee will continue to play a role for many years to come. Likewise, agricultural production's reliance on science will also be placed on daily agendas in greater scope.

In longrange terms, development of agriculture requires planning that is national in character. Planning must be done for the long range, the medium long range and the short range. The long range is from 50 to 100 years, with things like the building of the loess highlands taking quite a long time. Medium long range means 20 years or until the end of this century. Short range means 5 to 10 years. Long range planning is for the purpose of resolving our goals. Short-range plans are for the purpose of clarifying how we can begin, doing the easy first and the difficult later, first eating the "meat," and later gnawing on the "bones," studying what can be obtained first and put to use to take the next step. Planning has to be done in an overall way and carried out little by little and place by place; there can be no equal use of forces at the same time in all places. To do otherwise would require too much investment, a long period of time, no immediate results, and no turnover of financial and material resources.

Agriculture is the foundation of the national economy, and development of agriculture is, at bottom, the premier problem in China's national economic work. Output value of China's industry has long since stood at about 70 percent of the total output value of industry and agriculture combined, yet 80 percent of the country's population lives in rural villages. The status of the development of agriculture is a major matter bearing on the overall situation. Between 1979 and 1981, the total output value of China's agriculture grew 18 percent, with every peasant averaging a 66 percent increase in earnings. This has been the golden age in development of China's agriculture. However, it has to be realized that at the present time our agricultural production is fundamentally a hand operation, with both the labor productivity rate and the agricultural products commodity rate being relatively low. Capabilities for withstanding natural calamities are weak, and the contradiction between population increase and a lack of land becomes ever more prominent. The current struggle between economic crops and grain crops for a growing area is one manifestation of this contradiction. Consequently, while adhering to control of population increase, we must make advances in depth and in breadth in production, so as to produce from limited land an ever increasing amount of grain crops, economic crops, and other agricultural by-products.

Full use must be made of the land. So long as soil and water conservation and the ecological environment are not hurt, good use should be made of barren mountains and seacoast flats to increase the forest cover rate. There should be gradual improvement in production conditions such as seed and soil improvement, the composition of fertilizer and fertilization methods, farmland capital construction, farm machine improvements, etc. In addition, grain production and economic diversification should be properly linked. In this country of ours, the grain problem, or rather the food problem, is always a very big problem because of our 1 billion population. For a long time we have been in a situation of a low standard "melon and vegetable era," and some people do not realize the seriousness of this problem. However, for genuine improvement in the quality of people's lives, the food problem is always a conspicuous problem. Of course improvement in food does not necessarily mean to eat meat. Today some people advocate a change in the meat eating road that Europe and the Americas have taken to the use of plants to make plant protein. They have discovered that to have plants eat grain with people then eating the meat means waste of quite a bit of protein. Getting protein directly from the plants to make protein foods rich in amino acids is alway to save protein. In China's traditional diet, an overwhelming majority of people eat mostly grain. Therefore, for a fairly long time to time, China's agricultural structure will continue to stress grain production, and the grain growing area has to be suitably stabilized. Grain production has to be used to assure economic diversification, and economic diversification has to be used to advance grain production, with adaptation of general methods to local situations and equitable zoning for coordinated development of both.

In order to realize the aforestated goals, the scientific and technical level of farm science and technology personnel and the cultural and technical level of workers must be raised. A look at foreign experiences and our own experiences shows that when workers' cultural levels are high, labor efficiency is high, sensible suggestions become numerous, and work creativity also becomes greater. Some economically advanced countries rely to a very great degree on advance in science and technology to bring about improvement in the labor productivity rate. Consequently, an intensification of cultural education and scientific and technical education in China's rural villages is an extremely important problem that cannot be ignored. In a certain sense, the investment in cultural knowledge is more important than the investment in material resources.

Comrades who have been engaged for a long time in scientific and technical work in rural villages have gone through great hardships, and both the party and government should cherish them and gradually make good arrangements for their work and their daily lives. What the broad masses of science and technology workers and the broad masses of intellectuals want, first of all, is the party's confidence in them so they can make the most of their work skills and contribute their luster and ardor. Implementation of policies on intellectuals requires that work be done in this regard first of all. Everyone also seeks improvement in his livelihoods. The lives of middle aged intellectuals is particularly hard. They are, however, able to make allowances for the country's straitened circumstances and not demand that improvements be made at once, but rather than improvements take place gradually over a period of time. Wartime hardships were much greater than now, and did the intellectuals not persevere in struggle under the leadership of the party? Today the situation is much better than during wartime. Of course several years time will be necessary to bring about gradual improvements in their livelihoods so that they will be free from nagging worries while they do their work, and will have the necessary material conditions enabling them to make most use of their intelligence and wisdom in the course of modernizing agriculture.

9432
CSO: 4007/500

NATIONAL

INDUSTRIAL, AGRICULTURAL PRICE RATIOS EXPLAINED

Beijing BEIJING RIBAO in Chinese 12 Mar 82 p 3

[Article by He Cun [4421 2625]: "Increase in Peasant Earnings Cannot Again Come From Increases in Procurement Prices"]

[Text] Increase in peasant income and steady improvement in the people's lives is, without doubt, a major matter about which the party and state are regularly concerned. It is also a required goal of socialist production. Nevertheless, the fundamental way in which to increase peasant income and improve the lives of the people is development of agricultural production and increasing national wealth, not reliance on steady increases in procurement prices paid for agricultural products. This is because, to do this would be extremely disadvantageous for both peasants and the country alike.

We know that price is an expression of value in monetary terms. Prices fluctuate according to value, and this is a manifestation of the role of value laws. However, when prices are at variance with value, being overly high or overly low, the national economy be damaged, with the result that workers or some workers sustain losses. The economic depressions, the market slumps, and the inflation of old China caused the broad masses of workers serious damage. Ours is a planned socialist economy in which full advantage may be taken of the superiority of the planned socialist economy, and the laws of value used to serve the planned economy. Through the use of planned controls and market regulations, the state can stabilize the prices of goods at a specific level within a period of time. This is not only advantageous for the development of production and gradual improvement in the livelihood of the people, but is of major significance in consolidating the alliance of workers and peasants, and in promoting the stability and unity of all the nationalities in the country. Consequently, in a situation in which no substantial growth can occur in industrial or agricultural goods, there is no use hoping for continued increases in purchase prices paid for farm products to increase peasant income. Under current circumstances in which the public coffers are still running a deficit, in particular, further increases in purchase prices paid for farm products must inevitably entail the issuance of more banknotes, increasing the amount of currency in circulation and increasing the purchasing power of society, thereby artificially creating a market shortage of supplies. Furthermore, to continue along these lines, this would lead inexorably to inflation. When that happened, the money that the peasants gained from increases in purchase prices would be entirely lost in buying industrial goods, and would consequently be like drawing water with a bomboo basket--all in vain.

Of course, some comrades might say that unless purchase prices for farm products are raised, how is the unreasonably "price scissors" to be reduced or eliminated? We cannot use increases in purchase prices for farm products as the only way in which to eliminate or reduce the "price scissors," much less can we muddle together the two issues of reducing the "price scissors" and increasing peasant income. By "price scissors" is meant the uneven exchange of value of industrial and farm products and its trend of development. It reflects the overly low price paid for farm products, which are sold for less than their value, and the overly high price at which industrial goods are sold, which is more than their value. This sets up an unequal price exchange ratio and exchange relationship between agricultural and industrial products. We do not deny that within price parities in the exchange of industrial and agricultural products in China different degrees of "scissors" do indeed exist; however, this has been formed historically. During the more than 30 years since founding of the People's Republic, in order to reduce the "scissors," both the party and state have gradually increased purchase prices paid for farm products on the one hand, while several times lowering the prices of industrial goods on the other, so that price parities in the exchange of industrial and agricultural goods have gradually moved toward equitability, and the "scissors" has gradually been reduced (For changes in the exchange of major farm products for industrial products, please see the attached table).

From the attached table one can see that the trend in the "scissors" between industrial and agricultural produces has been toward gradual reduction. Most particularly, in 1979 the party and state tremendously increased the purchase prices paid for eight major agricultural and sideline products (the average rate of increase being 22.1 percent with another 7.1 percent hike in 1980). In addition, they instituted increased prices for excess purchases of grain, cotton, and edible oils for fairly substantial increases in peasant incomes. As a result of increased output and raised prices, accumulated increases in peasant income for 1979 and 1980 were 25.8 billion yuan, or an average increase of somewhat more than 30 yuan per peasant. Such a tremendous increase in the purchase prices paid for farm products which had as its objective the increase in peasant earnings and improvement in the livelihood of the 800 million peasants, also substantially reduced the scissors in exchanges of industrial and agricultural products. However, we cannot, for the sake of increasing peasant income, increase purchase prices year after year, much less is it possible to depart from the tasks of developing the national economy and building the national economy in order to increase purchase prices. Increases in purchase prices paid for farm products is not simply a matter of increasing peasant income, nor is it just simply a matter of reducing the "scissors." It can directly influence the prices of industrial goods that use agricultural products as their raw materials, going on to influence the stability of market prices, and to affect development of industrial and agricultural production and improvement in the people's livelihood. Additionally, it can directly bear on the issue of accumulation of capital for the building of the national economy. Therefore, increasing purchase prices requires extreme prudence. The principle of concurrent concern for the interests of the country, the collective, and individuals must be adhered to. There can be no concern for only the interests of a single element.

What is the fundamental way in which to increase peasant income? This means: development of commodity production to realize greater production and unimpeded sales. It is necessary to rely upon correct policies to stir the enthusiasm for socialism of the broad masses of peasants, to actively develop economic diversification even while assuring steady development of grain production, and vigorous improvement in the agricultural labor productivity rate. During the past several years, the state has made needed readjustments in rural production relationships. It has changed the overconcentration in management systems, blind direction in production, egalitarianism in distribution, and such inequitable practices, and it has developed various forms of production responsibility systems. That growth has taken place in agricultural production as a result, and that in many places peasant earnings have increased manifold attests to this. At the same time it is necessary to rely on scientific techniques and scientific management methods for energetic development of natural resources and equitable use of every plot of land including existing cultivated land, mountainlands, hills, grasslands, rivers, lakes, and sea areas, etc. It is necessary to take a new road in agriculture of fairly little investment for relatively high economic benefits. In this way it is possible to form a good link between the readjustment of rural production relationships and development of rural productivity, and to promote the all around development of the agricultural economy, so that the broad masses of peasants can lead a prosperous life.

Table

Per 100 jin of farm products	Industrial goods exchanged	1950	1957	1978	1978 percent of increase over 1950
Wheat	Kerosene (jin)	13	19	38	192.3%
Paddy rice	Sugar (jin)	7	9	14	100.0%
Ginned cotton	White cotton cloth (chi)	286	283	388	35.7%
Fattened hogs	Sugar (jin)	35	48	65	85.7%
Chicken eggs	Kerosene (jin)	39	88	195	400.0%

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CSO: 4007/350

BRIEFS

NATIONAL LIVE HOG OUTPUT--According to the estimate of the departments concerned, the output of live hogs rose in the first half of 1982. This is an increase of 2.45 million head or 2.7 percent over the same period in 1981. Many provinces and municipalities increased their output by a large margin. Nei Monggol increased by 175.5 percent, Qinghai by 50 percent, Gansu by 28.8 percent, Shanghai Municipality by 20.1 percent, Jilin by 17.8 percent, Jiangsu by 14.5 percent and Anhui by 12.7 percent. The state procured 3 million head, or a 5 percent increase over the same period in 1981. Each live hog gained a net weight of 6.6 jin per head more than in 1981. The number of sows capable of reproduction also increased in the first half of the year by 476,000 head or 2.3 percent over the same period in 1981. [Excerpt] [Beijing RENMIN RIBAO in Chinese 26 Aug 82 p 2]

FARM MACHINE SALES VOLUME--Since February of this year, the situation of China's falling sales volume of farm machine products which has been plaguing China for 3 successive years has begun a turn-around. By the end of June, the national aggregate sales had reached 3 billion yuan, an increase of 8 percent over the same period last year. [Excerpt] [Beijing RENMIN RIBAO in Chinese 28 Aug 82 p 1]

PRC AGRICULTURAL PRODUCTS INCREASE--Since the 3rd plenary session of the 11th Central Committee, China has reaped an all-round harvest in agricultural production. Although, according to the estimates by the State Statistical Bureau, the sown area of grain crops fell somewhat from 1979 to 1981 due to a rational readjustment of overall arrangements in planting, the national grain output has exceeded the pre-1978 level every year since then. For example, the total grain output in 1981 reached 325.02 million tons. Production of various cash crops also increased continuously. The cash crop output in 1981 was: cotton, 59.35 million dan; oil-bearing crops, 204.10 million dan; sugar, 720.57 million dan; and tea, 6.85 million dan. All exceeded the highest level in history, and each increased from 37 percent to 96 percent over 1978. Also in 1981, the gross value of output in forestry, animal husbandry, fishery and sideline production was about 617 millioun yuan (based on 1970 constant price estimates). This figure showed an increase of 31.1 percent over 1978 and an average progressive increase of 9.5 percent per year. [Excerpt] [Beijing RENMIN RIBAO in Chinese 17 Aug 82 p 2]

CSO: 4007/589

AGRICULTURAL TECHNICAL PACKAGE CONTRACT SYSTEM OUTLINED

Guangzhou YANGCHENG WAN BAO in Chinese 14 Jul 82 p 2

[Article by Lu Heyuan [4151 0735 3293]: "Promote Agricultural Techniques Directly Related to Economic Effectiveness--A Talk About Various Forms of Agricultural Technical Contract Systems"]

[Text] Agricultural technique contract systems are a new form of using science and technology to develop agriculture. They employ agricultural technical promotion departments on the one hand, and production units (production teams and peasant households) on the other, the two parties signing agreements on the basis of voluntary participation for mutual benefit. The agricultural technical promotion departments are responsible for setting technical procedures, training peasant technical mainstay cadre, and providing on-site direction, while the production units are responsible for putting technical measures into effect so as to assure application of science and technology, increased agricultural yields, and increased earnings for the peasants. Last year Guangdong Province launched a technical contracts campaign, contracting a crop area of 210,000 mu from which outstanding economic results were obtained from an overwhelming portion. This year the crop area contracted throughout the province already amounts to more than 1 million my, and contracting has been extended from grain crops to economic crops and other economic diversification; not only has there been a comprehensive contracting for increased yields, but also the contracting for individual kinds of techniques, the scope becoming ever greater and the forms increasingly diverse.

Technical contract agreements promoted everywhere in Gunagdong Province have been of the following several kinds:

(1) Agricultural departments (county agricultural bureaus or commune farm techniques stations) and peasants (production teams and peasant households) have a signed comprehensive technical contract agreements. Some of these relate to output, and some do not. Mostly contracting of rice has been done, but there has also been some contracting of sugarcane, peanuts, and such economic crops. In the case of agreements related to output, the principal method used has been the dispatch of technicians by agricultural units in accordance with agreements to help peasants formulate technical procedures, to carry out technical training, to give on-site

direction. In some cases a certain amount of chemical fertilizer, and pesticides have also been provided so the peasants can carry out production in accordance with technical procedures. The two parties negotiate a base figure with any output in excess being proportionally divided. Should reduced yields result from mistaken technical direction, agricultural departments will bear responsibility for paying indemnities. In the case of agreements not linked to output, technical direction fees are collected on the basis of contracted area, any increases in yields reverting entirely to the peasants.

(2) Organization by agricultural departments of peasant technicians to establish technical service teams, with the signing of technical contract agreements with the peasants. The main method used is for natural villages or production teams, acting with the support of commune farm technique stations, to select peasant technical teams from among those who have been trained, who have experience in scientific farming, and who enjoy a certain prestige among the masses to form farm technique service teams, signing technical contract agreements with peasant households (service households), discussing responsibilities both parties are to assume, a technical service fee of 1 to 2 yuan per mu per crop being collected. Agricultural departments periodically provide training to technical service team members to improve their technical levels.

(3) Individual technical contracts signec between plant protection companies and peasants for the prevention and control of crop diseases and insect pests. The company is responsible for disease and insect pest monitoring reports, for technical direction, for providing pesticides (and in some cases the contracting of application of pesticides), paying indemnities for losses beyond those stipulated with the peasants paying a prevention and control fee on the basis of contracted area.

In addition to the aforestated forms, there are contracts linking output, purchases and marketing to new techniques for perennial crops (such as fruits and tea); agreements linking hybrid seed production to yields; and joint operating agreements between agricultural, industrial, and commercial companies and production units.

Last year's experiences show that agricultural techniques contract systems holds the following advantages:

(1) They are beneficial in the implementation of various measures for increasing agricultural output, for accelerating the spread of agricultural science and technology, for improving scientific farming standards, and for increasing economic results. In the past we became accustomed to leaders making a general call, or using administrative command methods, to compel action when we promoted agricultural techniques. Leadership departments took no economic responsibility whatsoever as to whether these techniques were suited to local realities or whether they resulted in increased yields and increased earnings. Consequently, the peasants did not readily accept these new techniques. After employing the technical contracts system, yields increased and excess production was divided up

proportionally between the promoters and the producers. When technical direction was unsuitable and resulted in reduced yields, the promoters had to take responsibility for payment of indemnities. Thus, promotion of agricultural techniques became linked to economic results, with the result that the road to the spread of agricultural techniques came alive. Last year Zhanjiang Prefecture vigorously promoted the growing of hybrid corn as the early crop, but because quite a few places lacked experiences in the farming of hybrid rice, agricultural departments adopted the method of signing technical agreements with peasants to help them master the techniques so that measures for increasing yields were translated into reality. As a result, 290 of the 300 production teams that signed technical agreements with agricultural departments produced increased yields.

(2) Because the agreement methods closely united promotion of technology and production, made the goals synonymous, defined responsibilities, and blended the interests of both parties to the agreements, they helped stir the enthusiasm of all parties for concerted efforts in fulfilling the overfulfilling tasks stipulated in the agreements. Last year the Heyuan County Agricultural Bureau signed a technical agreement with Silaitang Production Team in Dengta Commune for the early crop, the contracted area amounting to 28.9 mu. After the agreement had been signed, the assistant agronomist responsible for providing technical direction, Zhang Yongshu [1729 3057 2873], took various actions to increase yields. As a result, yields averaged 219 jin per mu more than for the same period the previous year, and total output increased 42.8 percent. For the late crop, the scope of contracts was expanded to 191.3 mu of paddyfields in four production teams. Despite serious natural disasters and a general reduction in yields of nearby communes and brigades, the four production teams all realized remarkable increases in yields. One of the production teams had yield increases of 323 jin per mu, and the lowest production team had yield increases of 57 jin per mu.

(3) Raised the technological levels of farm technical cadres and the broad masses of peasants. Following the signing of technical agreements, direction in farm techniques became linked to production results. Farm technical cadres universally felt "pressure," and their zeal for more intense study of technology increased. In addition, training linked to production realities was provided large groups of peasant technical personnel, grassroots cadres, and commune members, and the technical level of the broad masses of peasants was generally raised.

(4) Increased sources of experience for technical promotion work. In the process of promoting the agreements system by agricultural departments, funds derived from the division of production in excess of bare figures could be used to improve work conditions and to increase expenditures for training and for the buying of needed instruments and equipment. They could also be used to give appropriate bonuses to technical cadres concerned for a gradual change in the old notion that "the country spends the money and the peasants farm the fields," as well as in the situation wherein agricultural technical service had been given without compensation. This represented a major change in agricultural technical promotion work.

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CSO: 4007/498

COTTON PRODUCTION PROSPECTS PROMISING

Shijiazhuang HEBEI RIBAO in Chinese 8 Jul 82 p 1

[Article by Economic Crop Office, Provincial Agriculture Bureau: "Hebei Province Cotton Production Situation Heartening. Area Expanded by Nearly 3 Million My From Last Year With an Increase of 300 to 400 Plants Per Mu. Budding and Blossoming 7 to 10 Days Early"]

[Text] According to reports from everywhere and onsite observations of units concerned, cotton growth throughout the province is very heartening.

The fine situation this year in cotton production throughout the province is manifested in three ways as follows: First, the cottonfield area is large and cotton in plentiful. Thanks to the arduous efforts of cotton growing peasants in combating drought this year, 10.71 million mu of cotton was planted, which was 3 million mu more than last year. This is the first time since 1966 that the 10 million mu mark has been broken. This a general reflection of the grading of former cottonfield plants, which was in the shape of a mountain with little good cotton and much second rate cotton. This year's grades of cottonfields is like an inverted pagoda, with much good cotton and little inferior cotton for an even growth situation. A survey done at the end of June shows 4.4 million my of first grade cottonfields amounting to 41 percent of the total cottonfield area, a 10 percent increase over the same period last year. This has been rare for many years. Second is the full stand of plants of sensible density, vigorous growth, and numerous fruiting branches. Full stand and substantially full stand cottonfield cover 9.4 million my, or 88 percent of the total area, an 8 percent increase over last year. Furthermore, the number of plants retained have had fairly numerous and of sensible density, with the number of plants retained being about 4,400 per mu. Right now the cotton has reached a height of more than 1 chi, and good cotton plants have seven or eight fruiting branches; run-of-the-mill plants have five or six fruiting branches. Plants are from 1 to 2 cun taller than last year and fruiting branches more numerous by three or four. Moreover, cotton plants are sturdy, stems are thick, and nodes are c-ose together. Leaf color is deep green. Third, budding and blossoming has been 7 to 10 days earlier than last year, and buds are both large and numerous. Budding has already taken place on more than 8.8 million mu, or 83 percent of the total area. Individual plants have formed 8 to 9 buds, the budding area increasing by 23 percent over last year. Individual plants have formed between two and three more buds.

Right now the cotton fields are growing well, and the enthusiasm of cotton growing peasants is greater. The broad masses of cotton growing peasants are now taking a firm grip on cottonfield care, determined to conquer all kinds of disasters and win a bumper cotton harvest this year.

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BRIEFS

EARLY RICE BUMPER HARVEST--Hubei Province reaped a bumper harvest of early rice this year with total output reaching more than 8.2 billion jin, an increase of more than 500 million jin over 1981. By 20 August, the province had in storage more than 1.2 billion jin of early rice, an increase of 25 percent over the same period last year. [Excerpt] [Beijing RENMIN RIBAO in Chinese 31 Aug 82 p 1]

CSO: 4007/587

BRIEFS

EARLY RICE HARVEST--Hunan Province reaped a bumper harvest of early rice this year with an estimated total output nearing 20 billion jin, an increase of more than 300 million jin over the bumper year of 1981. Both its per unit yield and total output exceeded the highest level in history. Of the 16 prefectures and municipalities in the entire province, 9 have increased output. Of these, Changde and Yiyang prefectures increased their output by more than 100 million jin over 1981, and Yueyang Prefecture and Changsha Municipality increased output by 96 million jin and 40 million jin respectively. [Excerpt] [Beijing RENMIN RIBAO 10 Aug 82 p 1]

CSO: 4007/571

XUZHOU PREFECTURE WHEAT OUTPUT INCREASED DESPITE DROUGHT

Nanjing XINHUA RIBAO in Chinese 26 Jun 82 p 1

[Article: "Xuzhou Prefecture Total Wheat Output 300 Million Jin More Than in 1981; Triumph Over Protracted Drought To Win Bumper Harvest From Summer Crop"]

[Text] Xuzhou Prefecture cadres and commune members have triumphed over calamities, including drought, high temperatures, and overcast, rainy weather, to achieve a bumper harvest from the summer crop. Output from over 6 million mu of wheat totals over 2.7 billion jin, an increase of more than 300 million jin over 1981. Every one of the eight counties in the prefecture had increased yields. In Pi, Suining, Donghai, and Feng Counties, the total output surpassed all-time highs. Rape output for the prefecture amounted to more than 90 million jin, more than twice as much as in 1981.

One of the main reasons for Xuzhou Prefecture's bumper harvest this summer was the tremendous stimulation of the masses of commune members throughout the prefecture to combat drought and achieve a bumper harvesting resulting from the agricultural production responsibility system. During the entire period of growth of summer ripening crops in Xuzhou Prefecture, winter drought was followed by spring drought, which was followed by summer drought. For a period of 7 months, the amount of rainfall was only one-third normal. Since the beginning of April, in particular, the drought situation has worsened. The drought-stricken wheat growing area in the prefecture amounts to more than 2 million mu. In order to achieve a bumper harvest from this year's summer crop, the broad masses of cadres and commune members throughout the prefecture firmly established an attitude of protracted combat against drought. During last autumn's sowing season, they created soil mosture, and rushed to take advantage of soil moisture for early sowing at the right time in order to get a full stand of crops. During the winter, they fought drought by watering more than 3.7 million mu of wheat. Following the lunar new year, in addition to providing a top dressing of fertilizer, they watered more than 2 million mu of wheat. The drought continued to develop beyond the end of May, and the prefecture CCP committee and government administrative offices held an emergency meeting on fighting drought in Feng County, where the drought was most severe. The conference promoted the experiences of Wanggou Commune in Feng County in carrying forward a spirit of self-reliance and arduous struggle to combat drought and protect the wheat. Throughout the prefecture a surge began, with men, women, old and young all pitching in, every available means being used to combat drought and achieve a bumper harvest. At the crucial time in the combat against drought to save the wheat, the prefecture daily fielded more than 1 million people to combat the drought by watering a total of over 2 million mu of wheat. Cadres and commune members said that such a good wheat harvest this year is the result of arousing the enthusiasm of all concerned by party policies and their efforts in watering the crops.

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CSO: 4007/487

METHODS OF IMPROVING PORK SALES DISCUSSED

Call for More Lean Pork

Nanjing XINHUA RIBAO in Chinese 28 Jun 82 p 1

[Article by Qian Feng [6929 6912]]

[Text] China raises more hogs than any other country in the world, and pork is the main meat the Chinese people eat. It can also be exported for foreign exchange to support building the four modernizations. Since the smashing of the "gang of four," party policies have stirred the enthusiasm of the peasants for hog raising, and this plus the fine grain harvests has brought rapid development of hog raising enterprises. In 1978, the state purchase of live hogs in Jiangsu Province totaled 10.69 million head. In 1981, the number was 16.31 million head, and for the first quarter of 1982 the number purchased was 4 million. In both city and countryside pork supplies are freely available, and annually hundreds of thousands of tons of pork are supplied for export, which is certainly a heartening matter.

However, during the past 2 years a problem of hogs tending to be overly fat has gradually cropped up. In 1981, the live hogs that were purchased averaged more than 181 jin in weight, over 14 jin more than in 1980. In northern Jiangsu prefectures that grow grains other than wheat and rice, the average weight was more than 230 jin. In the Lake Tai rice-growing region, where live hogs have historically been removed from inventory upon reaching a weight of about 110 jin, they weighed an average of more than 150 jin. Though the period January to April this year has been a slack season for the arrival of hogs to market, the average weight per head for hogs purchased in the province has been more than 185 jin, an increase of more than 21 jin over the same period last year. The hogs tend to be larger and their meat is also overly fat. A survey carried out in Nanjing Municipality shows that among live hogs slaughtered in 1975, for every 100 jin of pork, about 35 jin of lean pork could be cut. This year, however, the amount is only about 19 jin. On the other hand, the number of consumers hoping to buy lean pork have risen to more than 70 percent. In medium-size and small cities and market towns, and even in some rural villages, the demand for supplies of lean pork have steadily increased. Customers want to cast aside fat pork and choose the lean, and business people want to throw in more fat when they sell the lean, which often causes tempers to flare. This conflict between sellers and buyers reflects, in essence, the conflict between supply and demand. As a result of year after year of bumper rape harvests, supplies of rapeseed oil have increased and prices have fallen, so the market for lard has also become an increasingly small one. Reportedly the problem of overly fat live hogs exists in other hog-producing provinces too. Today the level of pork consumption by the people of the country is by no means high; however, overly fat hogs have hurt pork sales. Recently we strolled through Nanjing markets, where the sights we saw aroused concern. Many customers "looked at the pork and sighed with delight," while many sellers "looked at the pork and worried." How can this situation be changed? The key lies in clear improvement in economic benefits as the guiding mentality in hog raising, meaning that hogs with a lot of lean pork that meet the requirements of society have to be produced. The production requirements should specify not only great quantity, but also high quality. In this regard, we put forward the following suggestions for the reference of those concerned when studying the problem.

1. Hasten the transitional process from fatty meat hog varieties to lean meat varieties. This work must move quickly from the stage of academic study to the practical stage. China's pork resources are abundant, and the country's financial situation does not permit large imports of lean meat hog varieties. Experiments conducted in this province show that the increase of the lean meat rate requires, as a first step, the crossing of lean meat type boars with the province's fine variety local sows, and carrying out binary or tertiary crosses. It is also necessary, at the same time, to improve feeding techniques. Efforts should be made to obtain, within a period of about 5 years, a 10-percent or more increase in the lean meat rate.

2. As a matter of state procurement policy, the principle of superior price for superior quality should be followed to encourage the growing of hogs with a high rate of lean meat, and to curb the raising of overly fat hogs, guiding hog raising households to produce pork that meets the needs of society.

3. Pork should be supplied in cuts. While maintaining the existing centralized pork price levels, the difference in price between lean and fat pork should be suitably increased and different prices set for different pork cuts so that lean pork, porkchops, and such meats that are in great demand will be displayed in the markets, and so that fat pork can be sold, too, to meet the needs of different consumers.

This method will aid the continued development of the province's live hog production, improve the level of hog raising, help satisfy consumers, cause the markets to flourish, provide real benefits for producers and consumers alike, and offer hope for a reasonably good solution to the conflict between customers and sellers.

Different Cuts of Pork

Nanjing XINHUA RIBAO in Chinese 7 Jul 82 p 2

[Text] Beginning today, throughout the urban area of Nanjing all-round promotion will be given to the supply of different cuts of pork. This decision was reached yesterday by the municipal government.

All year long pork supplies have been fairly large in Nanjing markets. The meat has also been too fat, and fat pork has been sold as lean pork, which has caused a tense situation between sellers and their customers. In order to alleviate the conflict between supply and demand, on 27 May Nanjing began to run pilot projects on price differences for fat and lean pork and for the supply of different cuts of meat in 19 urban food markets. After more than a month, the overall situation in these pilot projects is good.

Simultaneous with the all-round promotion of supplies of various cuts of pork has been the institution of new prices for cuts. The trial prices have been cancelled, but uniform wholesale and retail prices for pork have not been changed. Under the new system of supplying cuts, prices for pork ribs, neck portions, and pork bellies have been adjusted downward, while prices for lean meat and chops have been adjusted upward, to meet the needs of different consumers. In addition, all food markets continue to maintain supply counters where the masses can select purchases.

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BRIEFS

HUSKED RICE BUMPER HARVEST--By 22 August, Jiangxi Province had over 1 billion jin of husked rice more in storage over the same period in 1981. [Excerpt] [Beijing RENMIN RIBAO in Chinese 31 Aug 82 p 1]

CSO: 4007/586

IDEAS ABOUT SURPLUS WORKFORCE PROBLEM SKETCHED

Beijing ZHONGGUO NONGMIN BAO in Chinese 15 Jul 82 pp 1, 2

[Article by Nei Monggol CCP Committee First Secretary Zhou Hui [0719 1920]: "Actively Guide Rural Surplus Workforces To Devote Efforts to 'The Land'"]

[Text] How to solve the problem of surplus rural workforces is something that has emerged in some places for the past 2 years. Following visits to rural villages during June and July, I feel that this problem is fairly widespread. This results primarily from the current practice of various forms of responsibility systems whereby output quotas are fixed for households or whereby households assume full responsibility for task completion about which the broad masses of peasants are fairly satisfied; consequently enthusiasm for labor and production is very high and the labor productivity rate is very much higher than formerly. Thus, apart from those needed to farm existing land and engage in household sideline production, a general one-third or so of the workforce is surplus. This has become a major problem in rural villages today requiring urgent solution.

The appearance of surplus rural workforces results from the various economic policies followed in rural villages since the Third Plenary Session of the 11th Party Central Committee. It also provides a major potential for our further enlivening of the rural economy, for improving reproduction capabilities, for developing the collective and individual commune member commodity economy, and for guiding the peasants to become prosperous with all possible speed. We must adroitly guide actions according to circumstances and strive to make peasant enthusiasm for production endure for a long time, and to steadily lead them to in-breadth and in-depth progress in production. This problem will become a major ingredient in the perfection of rural production responsibility systems requiring all jurisdictions to proceed from realities and to adapt general methods to local situations in diligent solution.

How can one go about solving the surplus rural workforce problem? Generally speaking the following ways are open. Some places have developed commune and brigade enterprises; some have contracted to do hauling or to work on city construction projects; some have gone to cities to run service trades such as restaurants; and some have developed dairy cattle, sheep and goat, hog, chicken and bee raising industries, etc. All such things may continue to develop in accordance with realities in individual areas. However, on the basis of overall circumstances within the Nei Monggol Autonomous Region, for the present and for some time in the future, the main efforts will have to be devoted to "the land" first of all, meaning it will be necessary to organize surplus workforces for intensive farming of existing cultivated land for steady increase in yields per unit of area and output value, growing trees and grass on barren sandy wastes, barren mountains and idle wastelands. In so doing, not only is there no conflict with the foregoing ways, but rather they can be mutually promoting, making every production avenue truly increasingly broad. For example, in regard to the problem of placing efforts on existing cultivated land, the region currently has somewhat more than 80 million mu of cultivated land from which actual yields are less than 200 jin per mu, the yields from oil-bearing crops and sugarbeets are not very high either. The situation is one of continuing widespread planting for meager harvests. Were we to guide the peasants in intensive farming and steadily increase the level of scientific farming, while at the same time gradually adapting general methods to local situations to do some farmland capital construction, both yields per unit of area and output value would increase year by year. A look at the most recently investigated situations shows the potential in this regard to be very great. We visited two commune member households in Xiatanvv Production Brigade, Zhongtan Commune, Toketo County. Last year they handed over to the state between 3,000 and 4,000 jin of grain and they still have grain reserves enough for more than half a year. Earnings per household averaged more than 500 yuan, and one household had earnings of more than 800 yuan. This brigade had once been a notorious "three dependencies brigade," which has changed this greatly within 3 years following institution of responsibility systems.

Another example is in the use of barren sandy wastes, barren mountains, and idle wastelands, with major efforts to plant trees and grass. The total area of the Nei Monggol Autonomous Region is 1.8 billion mu. In addition to cultivated land and fairly good pasturelands, it also contains a large amount of sandy wastes, barren mountains, and idle wastelands, most of which could be used to grow trees and grass. In early May I made an inspection of Beishuiquan Commune in Liangcheng County, Wulanchabu League where I particularly went to see the woodlands of their specialized forestry team. Formerly this was an area of bald mountains and barren ranges. Subsequently it was planted to pine trees, suanci [6808 0459], grass, bushes and shrubs, and within only 3 years time the mountain is entirely green. In this way not only was the ground cover gradually restored and a new natural ecological balance established to create fine conditions for the farming industry, but the natural strengths of the entire region could be fully used, and the potential of natural resources could be fully tapped to lay a foundation for development of a breeding industry, a gathering industry, a plaiting industry, a processing industry for farm, forestry, and livestock products, and other economic diversification. The pace of modernization accelerated.

In order to lead the post-production responsibility system surplus workforces into intensive farming of available cultivated land, togrow trees and grass on barren sandy wastes, barren mountains, and idle wastelands, and to be genuinely effective, a series of policy measures is needed to provide assurance. I feel that most important is solution to three problems as follows: One is to get understanding of the problem, namely by publicizing representative surveys and the natural character of Nei Monggol to get people to understand in terms of present and longterm interests the importance of devoting efforts primarily to "the land." Second is the benefits problem, by which is meant finding means whereby the peasants not only realize the longterm benefits, but also are able to obtain real benefits right now. Third is scientific and technological problems. Right now scientific levels in farming, growing of trees and grass is fairly low, and has to be raised correspondingly and with all possible speed. This requires, in turn, the formulation of policies and regulations. For example, planned and speedy allocation to peasants and herdsmen of barren wastelands, barren mountains, idle wastelands, and water surfaces with suitable conditions, collective and state organizations growing trees and grass in development of economic diversification. The government should issue certificates of ownership to commune members and collectives (specialized contracting to households or individual workers may be done) who grow the trees and grass, with it being made clear that commune members are to have inheritance rights for the trees and grass they grow. All levels of government also have to encourage and support collective organization of specialized crops to deal with the "three wastes." Places lacking conditions for the growing of grain crops may adopt the method of large-scale assignment of responsibilities, the state providing grain and the commune members concentrating their efforts on the growing of grass and trees in the development of economic diversification. Seedlings and grass seed required by commune members for the growing of trees and grass should be provided gratis, or at low prices, by the state or collective. In order that thepeasants and herdsmen will receive benefits within a short period of time, so long as normal growth of tree seedlings is maintained, they should be permitted to intercrop trees with oil-bearing crops, medicinal herbs, grass, or other economic crops. Shrubs and bushes may be combined with grass, and the long-term and the short-term combined, the short-term used to nurture the long-term. A mobilization of forces from every quarter is required, and all trades and industries engaged in science and technology, industry, communications, finance, and trade, or public finance and banking will have to help peasants broaden production avenues.

Throughout the region a group of representative examples of prosperity through labor have emerged primarily in the farming and breeding industries, and in economic diversification into forestry, animal husbandry, and fishing as an adjunct to agriculture. These representative examples have very great attraction for the broad masses of surplus rural labor, and all jurisdictions should widely publicize them. Representative examples are most convincing. When they have the experience of representative examples the peasants can follow to do the same thing. Of course, in some places mentalities have yet to be emancipated, and households that act in accordance with party policies, make the most of their own workforces and skills, and become prosperous through arduous labor are not supported with boldness and assurance, but rather have all manner of reproach raised against them, or are subjected to freezing irony and burning satire so that some households that have become prosperous through labor are afraid and apprehensive. This directly contravenes the spirit of the Third Plenary

Session, and is extremely unfavorable for the opening of broad avenues of production and providing for surplus rural workforces. We must continue to clean out the influence of "leftist" ideology and further propagandize and carry into effect the party's line, programs, and policies. We must indoctrinate cadres at all levels so that they will understand how to use local natural resources to become prosperous through labor. Our duty is not to restrict but rather to lead enthusiastically, to encourage and support, and, to the maximum degree possible, to lead surplus peasant and herdsmen workforces to advance in production in depth and breadth.

9432
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AUTONOMOUS REGION CHAIRMAN OUTLINES ORIENTATION OF AGRICULTURE

Yinchuan NINGXIA RIBAO in Chinese 29 Jun 82 p 1

[Article: "Reliance on Policies and Science To Win Sustained Increase in Agricultural Production This Year, Chairman Ma Xin [7456 0207] Points Out in Government Work Report as Being the Major Task in the Region's Economic Work This Year"]

[Text] Reliance on policies and science to win sustained development of agricultural production is the major task noted in Chairman Ma Xin's government work report in the region's economic work this year. He said that the gross output value from agriculture assigned the Ningxia-Hui Autonomous Region in the 1982 state plan is 766 million yuan, and a grain output totaling 2.44 billion jin. Though there is a certain amount of leeway in this as compared with actual output during 1981, because of the fairly frequent natural disasters during the first half of this year, we positively cannot lower our guard.

In his report, Chairman Ma Xin pointed out that the key to winning sustained increases in agriculture this year still lies in reliance on policies and on science. There is need to continue to carry out the various policies that have followed from the Third Plenary Session [of the 11th Party Central Committee], to adhere to the collectivized path of socialism, to maintain public ownership of the means of production unchanged for a long period of time, and production responsibility systems unchanged for a long period of time. Responsibility systems have to be assiduously summarized, perfected, and consolidated. For the various forms of responsibility systems that have already been established, so long as they help development of production, help consolidate the collective economy, and are supported by most of the masses, there is no need to change them. A good job has to be done with commune and brigade leadership teams, a commune and brigade cadre presonal responsibility system has to be established, the responsibilities of one's own position defined, and the state of paralysis or semi-paralysis of some leadership teams genuinely resolved. It is necessary to proceed from realities in diligently studying and solving various new circumstances and new problems that have arisen in the institution of responsibility systems. No matter the form of responsibility system practiced, production planning must be subordinate to unified state planning. The peasants should be regularly indoctrinated in love for country, love for the collective, concurrent concern for the interests of the three[the country, the collective, and individuals], in acceptance of plan direction, and in striving to support the building of socialism.

The report said that in accordance with the program of "positively no relaxation in grain production while actively developing economic diversification" in combination with the realities and different characteristics of the region, the Huang He irrigation area is to be built gradually into an economic zone predominantely devoted to commodity grain, but with integrated development of agriculture, industry, and commerce. The southern mountain area is to be built gradually into an economic zone in which forestry, livestock products, and commodity oils predominate for a combination of farming and forestry with self-sufficiency in grain. Most important in doing a good job of grain production is scientific farming and intensive farming to increase yields per unit of area. While assuring increased grain production for the region as a whole, equal emphasis has to go to the collective and individuals in an adaptation of general methods to local situations for development of economic diversification, to broaden production avenues, and to go forward in agricultural production in depth and in breadth.

In this report, Chairman Ma Xin called upon all levels of government and the Afforestation Committee to make the campaign for the planting of trees for afforestation and the greening of the mountains and the valleys routine and sustained, and taking a firm grip on its implementation. The focal point of tree planting for afforestation in the region is on doing a good job of creating a woodland network in irrigation area farmlands and along roads, and the "growing of trees, grass, and shrubs" in mountain areas, with earnest efforts being devoted to the project for buildng shelter forests in Xiji County. Afforestation should be done scientifically; quality of afforestation should be improved; and care and protection should be intensified.

The report said that simultaneous with major efforts to develop both collective and individual commune member raising of hogs, sheep and goats, there should be an adaptation of general methods to local situations for development of dairy cattle, dairy goats, beekeeping, and rabbit raising. Attention should be given development of aquatic products production. It is necessary to proceed from realities in the development of the region's farming, forestry, animal husbandry, sideline occupations, and fishing industry, and to further buttress scientific agricultural research and the promotion of technology. The building of the four base counties of Guyuan, Yanchi, Xiji, and Pingluo should be diligently summarized and improved to make fullest use of the role of these base counties in the modernization of agriculture.

9432
CSO: 4007/499

PLANNED ASPECTS OF FARM PRODUCTION EMPHASIZED

Yinchuan NINGXIZ RIBAO in Chinese 1 Jul 82 p 2

[Article by Guo Shizhong [6753 0013 1813]: "Bolstering Planned Management of the Agricultural Economy"]

[Text] Ever since institution in the farflung rural villages of the region of production responsibility systems predominantly in the form of peasant households assuming full responsibility for task completion, the fruits of commune member labor and economic benefits have been fairly closely linked; the enthusiasm for work of the peasant masses has been high, and the sense of responsibility for production strong, all of which have played an active role in promoting the development of agricultural production. However, some cadres and members of the masses also wrongly suppose that now that assumption of full responsibility for task completion by peasant households has been instituted, one can farm any way he pleases. As a result, when making plans for production, some production teams and commune members give no thought to the country's needs and ignore plan guidance fromsuperior authority. When it is very clear that not so much of certain things is needed, they blindly expand its production for the sake of large profits, creating overstocking. Because profits to be made are small, some things needed by society are not actively produced, with the result that procurement plans are not fulfilled. Among some of the production teams and commune members in the close-in suburbs of Yinchuan who grow mostly vegetables, a mentality of slighting the growing of vegetables exists, and during the season when vegetables are planted and taken care of, large numbers of the workforce are transferred elsewhere to engage in sideline occupations to the detriment of begetable production. Among some of the production teams that institute the centralized growing of vegetables with grain production being assigned peasant households for full assumption of responsib-lity for completion, there is also a tendency to emphasize the growing of grain and to slight the growing of vegetables, which impairs fulfillment of vegetable procurement plans. In sales to the state of agricultural by-products, some commune members that have not fulfilled their state grain sales quotas sell large quantities of commodities in country fair markets.

In view of the new circumstances in rural villages today, how can plan guidance of agriculture be strengthened and planned management of the agricultural economy be perfected. First of all it is necessary to take in hand political and ideological work, conducting education of the peasants in socialism, patriotism, and collectivism for a correct understanding and handling of the relationships among the welfare of the state, the collective, and individuals. Concepts of the overall situation must be established, and there can positively be no concern only for one's own welfare while not caring for the welfare of the state and the collective. The peasants must be made to understand that only by opening production avenues under guidance of state plans, through arduous labor, and by producing more of the goods that society needs can incomes steadily increase so that they themselves can become prosperous.

Secondly, all levels of planning departments and other pertinent units should intensify investigation and study, and make planning more scientific. In formulating plans, it is necessary to dig into realities and do a good job of investigation and study. It is necessary both to consider the needs of the country and to examine real possibilities. It is necessary to adapt general methods to local situations, to make use of strengths, to be active and reliable, and to leave some room for maneuver.

Third is the need to gradually establish and perfect the economic agreements system. Throughout the farflung rural villages, various forms of an economic agreements system are being promoted today. This is a major action for implementing state plans under the new circumstances. Already established economic agreements systems require further improvement. Not only should there be production agreements, but sales agreements as well, production agreements and procurement agreements being linked so that state procurement plans can be translated into reality. Agreements should be signed promptly each year, preferably in advance of spring sowing, to allow peasants to plan production early. Those who violate agreements are to be economically penalized to maintain the solemnity of agreements. For goods not included in procurement or assigned procurement quotas, departments concerned are to provide the peasants with timely information on the market as a guide for production. All planning departments are to actively coordinate solution to conflicts between agriculture and commerce, strengthening the planning function and overcoming blindness. Only in this way will it be possible to carry into effect a program of "taking the planned economy as the key link with market regulation being supplementary" to promote the building of the four modernizations and to improve the people's standard of living.

9432
CSO: 4007/499

PROVINCIAL NOTICE ISSUED ON SUMMER FARM WORK

Yinchuan NINGXIA RIBAO in Chinese 20 Jun 82 p 1

[Article: "Ningxia-Hui Autonomous Region People's Government Notice On Mobilization to Carry Out the 'Three Summer Jobs' in a Solid Way. (28 June 1982, Not Otherwise Circulated)"]

[Text] The "three summer jobs" [harvesting, planting, and field care] season will soon be here. No opportunity should be missed to do a good job of the summer harvest in order to achieve increased summer grain yields, to plant autumn grain well and in sufficient amount, and to intensify care of autumn grain and economic crop fields. This holds major significance for achieving a bumper harvest for the years as a whole. In order to concentrate energies to achieve victory in the "three summer jobs," the following notice has been specially prepared.

1. Conscientious implementation of the spirit of the regional agricultural work conference to increase ideological understanding. The regional agricultural work conference recently convened by the autonomous region people's government relayed the important directive from the CCP committee leadership comrades on work in Ningxia, summarized and analyzed this year's agricultural production situation, studied the problems existing in the agricultural production, and proposed major methods of working unrelentingly for 4 months to achieve an all-round bumper farm harvest this year. All jurisdictions are to conscientiously transmit the directive for implementation and insure that it is carried out. Cadres and the masses are to be educated in a correct understanding of the present agricultural production situation so that they are aware of both favorable conditions and unfavorable factors and existing problems, and resolutely overcome both feelings of blind optimism and pessimistic loss of hope. There is to be continued pervasive propagation of the principle of "one adherence," "two no changes," and "three concurrent concerns" to arouse collective and individual enthusiasm, with everything that should be centralized being centralized, and everything that should be contracted out being contracted out, in a combination of centralization and contracting; adaptation of general methods to specific situations for the perfection of agricultural production responsibility systems; and effective organization of harvesting, planting, and field care during the period of the "three summer jobs," in order to fully arouse all forces to commit themselves to the "three summer jobs" battle.

2. Firm establishment of an attitude of combating disasters to achieve a bumper harvest for timely completion of the "three summer jobs." Meteorological forecasts call for a fairly large amount of rain during July and August this year. Low temperatures with cold damage and other natural disasters may also occur. Leaders at all levels as well as the broad masses of people must firmly establish an attitude of combating disasters to achieve a bumper harvest, guarding against disasters ahead of time, combating disasters when they exist, and preparing early in order to provide against possible trouble.

The summer harvest is a struggle to snatch food from the dragon's mouth requiring good organization of the workforce and draft animals, and the operation of all harvesting, hauling, and threshing machines, putting them to work on the summer harvest at the right time. In the case of brigades in which peasant households are assuming full responsibility for task completion, in particular, machinery should be assembled on the basis of voluntary participation for mutual benefit to carry out harvesting and threshing for commune members, with commune members paying equitable compensation. Regarding hardship households lacking a workforce, the fine tradition of solidarity and mutual assistance is to be maintained, with relatives helping relatives, neighbors helping neighbors, and active help being given to the dependents of martyrs and military servicemen in harvesting the summer crop. Wheat is to be harvested promptly when it is in the waxy stage of ripeness; harvesting, hauling and milling are all to be carried out on time; both harvesting and threshing are to be accomplished painstakingly, and the grain is to be stored in granaries. In addition, grain from selected fields and selected heads is to be kept as seed grain.

Multiple cropping and sowing of the late fall crop is to be carried out promptly in a combination of soil use and soil nurture. In southern parts of the province, multiple cropping should be accomplished in accordance with state plans, with adaptation of general methods to local situations, and the growing of minor oil-bearing crops is to be encouraged. In northern parts of the province, the emphasis should be on various kinds of green manure. Mountain areas should emphasize buckwheat, quick growing broomcorn millet, and similar late autumn crops that can be rush planted to take advantage of soil moisture. Disaster-stricken communes and brigades, in particular, are to plant autumn vegetables and fodder grass to the fullest extent possible, using the autumn to make up for summer shortfalls.

While taking a firm grip on summer harvesting and planting, very serious attention should be given to field care of the autumn grain. In the Huang He diversion irrigation area, there should be application of a top dressing of fertilizer to paddy rice at the right time and in the right amount, weeding, and the raising and lowering of water in the paddy fields should be managed so that the paddy rice will reach full heading safely. Attention should be given to weeding and to prevention and control of diseases and insect pests in sugarbeets in an effort to get a bumper sugar harvest. In mountain regions, the tasks of loosening the soil, weeding, conserving water, maintaining soil moisture, and guarding against and dispelling hailstones in grain growing areas should be taken firmly in hand in an effort to increase yields and earnings.

3. Intensification of safety education to do a good job of keeping the summer harvest safe. Before the summer harvest begins, various methods should be used to educate the masses in the legal system and in fire prevention, robbery prevention, and accident prevention, to formulate "village rules and civilian pacts," and to establish and perfect security preservation organizations and personnel security personal responsibility systems. Work sites and storage buildings are to be made secure and all hidden dangers that might cause accidents removed to insure summer harvest safety. Vigilance should be heightened to strictly prevent and strike down the destructive activities of lawless elements.

4. Education in the "three concurrent concerns." The masses are to be widely and pervasively educated in love of country and love of socialism, as well as in concurrent concern for the welfare of the country, the collective and the individual, active fulfillment of state procurement quotas, full payment of collective withholdings in accordance with agreements, and providing grain rations to the households enjoying the five guarantees [childless and infirm elderly persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's commune] and to the dependents of martyrs and servicemen. Communes, brigades, and peasant households with increased yields are to sell surplus grain to make a greater contribution and support national construction. Erroneous tendencies toward concern only for the individual and no active fulfillment of state purchase quotas or collective withholding is to be guarded against. Communes and brigades that practice unified production team accounting and unified distribution are to verify summer grain output and economic revenues and expenditures and do a good job of advance summer distribution. Communes and brigades practicing household assumption of full responsibility for task completion are to see to it that contract agreements are strictly honored, that all withholdings have been made in accordance with agreements, and that the solemnity of agreements is upheld. Experiences are to be constantly summarized, contract agreements perfected, and the responsibilities, rights, and benefits of peasant households dovetailed with state plans and the collective welfare.

5. Strengthening of leadership over the "three summer jobs." All government administrative offices, municipalities, and counties are to set up command organizations for the "three summer jobs," and organize skilled and quick-witted personnel to be in charge of matters for prompt, correct, and all-around understanding of situations, the summarization and exchange of experiences, and to give highly effective direction. All levels of leaders are to lead cadres into the frontlines of the "three summer jobs" to survey the situation, summarize new experiences, and solve real problems in the "three summer jobs." Business, supply and marketing, fiscal, and banking departments are to address themselves to new circumstances in order to provide increased services, improve their service attitudes, and assure that a good job is done in supplying chemical fertilizer, pesticide machines, small farm implements, and gasoline and diesel fuel for agricultural use. Grain units are to follow the principle of accommodating the masses in grasping summer grain procurement for the state, and procurement for the state at negotiated prices. They are also to provide seeds promptly for multiple cropping. Water conservancy departments are to strengthen management

of irrigation to insure water for use on paddy rice and other autumn grains. Electrical industry departments are to vigorously propagandize general knowledge about the safe use of electricity, inspect electric power lines, and insure the regular supply and safe use of electricity. All trades and industries in all sectors are to coordinate closely and strive jointly to assure no lost opportunities in completion of the "three summer jobs."

9432
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WARNING ISSUED AGAINST OVERPLANTING OF TOBACCO

Xian SHAANXI RIBAO in Chinese 28 Feb 82 p 2

[Article by Wang Hanzhi [3769 3352 2535] and Wen Meihui [3080 2734 1920]: "Flue-cured Tobacco Should Be Grown According to Plan"]

[Text] During the past 2 years, fairly great development has taken place in the production of flue-cured tobacco in Shaanxi Province. In 1981 output of flue-cured tobacco totaled 270,000 dan, and state procurement was almost 270,000 dan. In both production and procurement, plan quotas were fulfilled for a rapid turn around in the situation of tobacco leaf supply not meeting demand.

On the basis of the province's cigarette production quota and the market situation for this year, plus consideration to the trend of development of cigarette production next year, total planned tobacco output for 1982 is 400,000 dan, up 48.2 percent from last year, quite a rate of speed. However, it has been recently reported that communes and brigades in some prefectures are thinking of breaking through the plan quotas handed down by the province. Unless this is corrected, this year's growing area may top 250,000 mu for a total output that breaks the 500,000 dan mark.

The agricultural economy is an important integral part of the whole national economy, and the agricultural economy also has to follow the flexible principle of taking the planned economy as the key link, market regulation being supplementary, and market regulation being only under guidance of state plan. To be concerned only for momentary benefits with no concern for national needs, growing whatever happens to be profitable and attacking state plan can lead to many future contradictions. In 1978, Shaanxi Province singlemindedly pursued quantity as a result of ignoring the adaptation of general methods to local situations in making plans. Though total output reached 275,000 dan, quality was inferior causing slack sales and incurring losses for both the country and the collective, and leading to a tremendous decline in flue-cured tobacco in 1979, total output falling to 97,000 dan. The conflict between production and needs was extremely prominent. We cannot forget this lesson, and we positively cannot cast state plans aside just because some production team "got rich off of tobacco" last year, proceeding only from personal interests to blind expansions of the flue-cured tobacco growing area.

Tobacco production must be commensurate with cigarette production capabilities and quantities that can be sold in the market. Shaanxi Province's cigarette production quota for this year is between 300,000 and 330,000 cases. Blending requires bringing some tobacco into the province from outside, so only between 250,000 and 300,000 dan of tobacco from this province is needed. Plans call for a total tobacco output this year of 400,000 dan, meaning a surplus of about 100,000 dan. This has already taken into consideration an expansion of cigarette production capacity next year. It is anticipated that no great increase will take place within a short period of time in the amount of market sales of tobacco. Looked at in terms of markets in the country as a whole, there are indications that a surplus of tobacco already exists. Furthermore, the province's tobacco farming techniques, flue curing capabilities, and storage facilities cannot cope. Blind expansion of tobacco growing is dangerous. Only by growing according to state plan will it be possible to concurrently consider the interests of the country, the collective and individual commune members. On this point there can be absolutely no carelessness.

9432
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USE OF POLYVINYL CHLORIDE PLASTIC FILM FOR GROWING SEEDLINGS URGED

Xian SHAANXI RIBAO in Chinese 28 Feb 82 p 2

[Article by Wang Guanli [3769 0385 0448]: "Proposed Promotion of Use of Polyvinyl Chloride Plastic Film to Raise Seedlings"]

[Text] Ever since last fall a shortage of the plastic film needed to raise seedlings has occurred in Shaanxi Province. How can this problem be solved? One way is to economize on its use and to take care of the plastic that communes and brigades presently have for the raising of seedlings to extend the time it can be used. The second is to promote vigorously throughout the rural villages of the province the use of polyvinyl chloride plastic film as a film for raising seedlings.

Use of plastic film to raise seedlings is an important technique in scientific farming. In the early 1960's when China began to use plastic film to raise seedlings, the film it used was polyvinyl chloride, which is made by using polyvinyl chloride resin as a raw material to which diverse chemical boosters are added, which is then blown. It is highly pliable, tough, and stetchable, light permeable, and has a long useful life. Furthermore, the polyvinyl chloride resin raw material is limestone, which is abundant, readily obtainable, and has substantial developmental prospects. Economic benefits derived from the growing of seedlings are also extremely outstanding.

Formerly, however, when some places used polyvinyl chloride plastic film to raise seedlings, there were instances in which the seedlings either died or suffered damage. Investigation and study showed that the cause of this problem was that when some production plants produced polyvinyl chloride plastic film for raising seedlings in 1975, they mixed in a plasticizer imported from abroad, dibutyl phthlate. This plasticizer is toxic to some farm crops. Thereafter it was not further produced in China. Scientific evaluation shows polyvinyl chloride film to be non-toxic to plants, and in most parts of China today this plastic film is used to raise seedlings. But ever since that accidental destruction of seedlings, Shaanxi Province has changed to the use of polyethylene plastic film for the raising of seedlings. Even though thir plastic film has certain advantages, as compared with polyvinyl chloride plastic film, its light permeability is poor, its strength is low, and it cracks easily. Furthermore, the raw material used to make polyethylene is a byproduct of the cracking of petroleum, which becomes increasingly scarce as the shortage of petroleum increases. Shaanxi Province also lacks plants that produce polyethylene resin and has to depend largely on state allocations and imports. In order to change the situation of shortage of polyethylene plastic sheeting for the raising of seedlings, it is suggested that relevant leadership departments at all levels give serious attention to doing a good job of production, supply, and marketing work in this regard.

9432
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EXPERTS PROVIDE POINTERS ON COTTON PRODUCTION

Xian SHAANXI RIBAO in Chinese 1 Mar 82 p 2

[Article by Li Xiaosheng [2621 2400 3932]: "When Peasants Grow Cotton Science Has to Be in Charge. Provincial Agricultural Commission Invites Experts to Discuss Technical Problems in Cotton Production"]

[Text] Recently the Provincial Agricultural Commission invited cotton experts to conduct a symposium, and listened to sensible suggestions from the experts on how to do a good job of this year's cotton production and on long range problems in building cotton production bases.

At the symposium the cotton experts recalled the long history of cotton production in the province, and particularly analyzed the status of cotton production during the past several years. They agreed that the province's central region is a very good cotton producing area. The reason cotton yields are low and inconsistent are, first of all, insufficient technical understanding of cotton production. Many effective scientific techniques have yet to be promoted to wide area production. Second is insufficient attention to unfavorable factors in an otherwise advantageous natural environment, which causes passivity in production. For example, the central part of the province is dry during spring and the soil lacks moisture. During the summer, drought is serious, and in the fall there is too much rain. This means that after the cotton has been sown, full stands are impossible; during summer heat boils are few; and in the fall bloom, numerous boils rot. Consequently the cotton experts believe that in order to make cotton production in Shaanxi Province take off and catch up with or overtake advanced national levels, it is necessary to make full use of the dynamics of scientific techniques to surmount climatic changes that are unfavorable elements in cotton production.

But just what measures should be given attention in the scientific farming of cotton? The experts noted the following: 1. Need to nurture soil fertility. For the past several years, soil fertility has been insufficient in the province's cotton growing areas. Its organic content has been overly low to the detriment of cotton growth. Henceforth, all communes and brigades are to adapt general methods to local situations in a large scale return of stalks and stems to fields, growing to green manure, the greater fertilization with barnyard manure. 2. Energetic promotion of 1155 fine cotton variety. 1155 cotton is a high yield, disease resistant fine variety suited for widespread growing in the province's cotton growing areas. While promoting its cultivation, all jurisdictions should actively propagate seeds. 3. Rapid promotion of cotton growing methods of close planting of low plants and growing of seedlings for transplanting. The techniques of close planting of low plants and growing of seedlings for transplanting can bring about early budding, early blossoming, early fruiting, and early harvesting of cotton to get around the many disadvantageous factors resulting from weather changes. They are a new way to get consistently high cotton yields. 4. Step by step directed use of plastic mulch planting methods for the gaining of experience, and then extending it to use over wide areas. 5. All jurisdictions are to take vigorous action to train a technical corps for cotton production. The experts also stressed that all cotton growing areas should act quickly to painstakingly ready the soil in order to improve cottonfield quality. They should organize manpower to select seeds and to conduct experiments on budding to obtain full stands.

This symposium was sponsored by the Provincial Cotton Institute. Participants in the symposium included experts and some cotton technicians from the provincial advisory unit on cotton techniques.

9432
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SUMMER GRAIN PROCUREMENT QUOTAS OVERFULFILLED

Jinan DAZHONG RIBAO in Chinese 2 Jul 82 p 1

[Article: "Tai'an, Heze, Zaozhuang, and Linyi Overfulfill Summer Grain State Procurement Quotas. Correctly Handle the Relationship Among the Three, and Actively Support Building of the Four Modernizations"]

[Text] As of 27 June, Tai'an Prefecture had sent to storage 281.5 million jin of wheat procured by the state for a 1.5 million overfulfillment of the state summer grain requisition procurement quota, and 33.6 million jin more than last year.

In order to do a good job of state summer grain procurement work, all levels of CCP committees and government in this prefecture diligently strengthened leadership. The prefecture sent a total of somewhat more than 300 cadres down to the grassroots levels to supervise and give impetus to inspection work, to help do a good job of state summer grain procurement and distribution, and to indoctrinate cadres and the masses in strengthening their national concept to give more and better grain for support of the building of the four modernizations. Wenyang Commune in Fecheng County joyously harvested a bumper crop from 52,000 mu. Within 10 days time, it turned over to the state 13 million jin of wheat, overfulfilling by 5.7 million jin its grain contract procurement quota for the year as a whole from a single crop. The four plains communes of Chengguan, Huqu, Pengji, and Shahezhan in Dongping County harvested a bumper summer grain crop this year and sold a total of 26 million jin to the state, overfulfilling 1.3 times its grain contract procurement quota for the year as a whold from a single crop.

As of 28 June, 146 million jin of wheat had been procured by the state and placed in storage in Heze Prefecture in overfulfillment of the state procurement quota handed down by the province.

Heze Prefecture brought into full play the enthusiasm of both the collectives and individual commune members, and struggled unremittingly against drought to win a bumper summer harvest. The summer grain state procurement quota assigned Heze by the province this year amounted to 145 jin. This figure was double last year's summer grain state procurement quota of 65 million jin. The Prefecture CCP Committee and government administrative offices conducted indoctrination of the broad masses of rural cadres and commune members in love of country, love of collectives, and love of socialism. The broad masses of cadres and commune members indicated, one after another, that "formerly when we sustained disasters, fraternal prefectures energetically supported us; now we can tighten our belts a little to support people in disaster areas." This year Huangduiji Commune in Yuncheng County harvested a bumper crop and turned over to the state 3 million jin of wheat, which was 2.2 times the total amount of wheat turned over to the state for the past 2 years, and represented a contribution of 103 jin per capita. Four production teams in Suge Production Brigade, Sunmiao Commune, Chengwu County sold the state 37,000 jin of wheat, fulfilling in a single season state grain procurement quotas for 3 years.

As of 27 June, Zaozhuang City had put into storage 139 million jin of summer grain in overfulfillment of state procurement quotas issued by the province.

The 1.72 million mu of wheat that Zaozhuang City planted this year was hurt by serious drought. Because of the very unbalanced situation of bumper and lean years in wheat production, this city appropriately readjusted the state procurement quotas for each prefecture and county. Some of the cadres and masses in bumper harvest units indicated their desire to turn over to the state more and better quality grain in a genuine action in support of national construction. After Taierzhuang District had overfulfilled its original state procurement quota of 15 million jin, it took the initiative in shouldering the 7 million jin quota of units having reduced outputs. Throughout the city a large number of contributions averaging 1,000 jin of grain per capita or peasant households making contributions of 4, to 6,000 jin of wheat appeared.

As of 30 June, Linyi Prefecture had turned over to the state more than 253 million jin of summer grain to overfulfill its quotas for this year for delivery of summer grain to storage.

This year this prefecture's wheat was subjected to serious drought and hailstone attacks. Some counties and communes and reduced yields. All counties and communes followed a spirit of using the bumper to supplement the lean for active fulfillment of state procurement quotas. Tancheng, Cangshan, Linyi, Ying, and Linshu counties, located on the plain and having relatively good harvests, took the initiative in turning over more and better grain to the state. Within a period of only 7 days, Cangshan County turned over more than 25 million jin.

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SCIENTIFIC TECHNIQUES FOR GROWING COTTON OUTLINED

Jinan DAZHONG RIBAO in Chinese 5 Mar 82 p 1

[Article by Wang Zhengping [3769 2973 1627]: "Take More Action and Give Attention to Solution of Three Kinds of Technical Problems Is Recommendation of Provincial Cotton Institute Experts on How to Win an Even Larger Bumper Cotton Harvest This Year"]

[Text] In a recent report to provincial government leaders, Provincial Cotton Institute experts made the following suggestions. In order to win an even larger bumper cotton harvest this year, more action has to be taken on the basis of existing techniques. Particularly required is a focusing on weak links to solve conscientiously the following technical problems:

1) The problem of mongrelization and regression of seeds. The rapid popularization of Lumian No 1 played a tremendous role in increasing the province's cotton yields, but it also occasioned problems in the mongrelization of seeds. Surveys show that during the past 2 years varying degrees of variation and regression have occurred. In some field plots, altered plants amount to as much as more than 80 percent, which not only causes very great inconvenience in care, but also results in noticeable declines in output and quality. In this regard it was suggested that large scale mass purification and rejuvenation be done, and that seed propagation units or fine variety farms speed up the propagation of pedigree seeds. Right now seed units should intensify care to strictly insure quality. While assuring the fineness of Lumian No 1 variety and making the most of its potential for increased yields, it is also necessary to adapt general methods to local situations for the promotion to cultivation of other fine varieties in order to change the province's reliance on a single cotton variety.

2) Active prevention and control of the two diseases (fusarium and verticullum wilt) and the two insects (aphids and boll worms) that are most damaging to the province's cotton. Three links must be taken in hand in this regard, as follows: 1) A change from single methods of prevention and control to multiple methods of prevention and control, i.e. using agricultural prevention and control as the foundation supplemented by biological prevention and control, with chemical prevention and control as an assurance, the three organically linked, and none of them overlooked. In this way, pesticide use on cottonfields can be reduced by six or seven times for a great reduction in production costs. 2) Replacement and updating of pesticides to increase

effectiveness in prevention and control, and to reduce prevention and control costs and damage done by pesticides. Right now prevention and control of aphids requires use primarily of monocrotophos, and prevention and control of boll worms requires use largely of anliulin [5143 4288 4340]. Currently there is a severe shortage of supply of these two pesticides, which should be quickly studied for solution. 3) Improvement in quality of prevention and control. A good job of surveying fields and making accurate forecasts has to be done. The time for prevention and control measures should be accurately selected, and there should be no blind continuous or large scale spraying of pesticides so as to avoid damage to the ecological balance and increase in prevention and control costs. Sufficiently serious attention should be given fusarium and verticullum wilt of cotton. The successful multiple prevention and control measures against fusarium and verticullum wilt of cotton that the Provincial Cotton Fusarium and Verticullum Wilt Prevention and Control Research Coordination Unit has discovered should be actively promoted. In seriously infested areas, mostly disease resistant varieties should be promoted. In lightly infested areas, mostly crop rotation should be done. In places in which infestations are just beginning, diseased areas should be dug out. In uninfested areas, quarantine should be strengthened.

3) Expanded use of some new farming and care techniques. 1) Interplanting of wheat and cotton. This plays an important role in increasing multiple cropping indeces, and in solving the problem of competition between grain and cotton for land. It may be promoted as possible in places having the conditions. 2) Growing of seedlings for transplanting and use of plastic mulch. Growing of seedlings for transplanting is a successful technique for gaining high cotton yields. In saline-alkaline areas in particular, it plays an outstanding role in assuring full stages and in promoting early seedling development. Plastic mulch has been used over a fairly wide area in recent years for the growing of crops such as vegetables and peanuts, with good results in increasing yields. Last year it was used on more than 200,000 mu of cottonfields in the country for average increases in yields of about 30 percent. After deducting costs, it increases earnings by from 20 to 30 yuan per mu. This year the province plans initially to use it on more than 100,000 mu of cottonfields, and if conditions permit, this area will be somewhat expanded. 3) Use of ethrel to stimulate ripening. Experiments show that after using this technique, pre-frost cotton yields may increase by more than 20 percent at a cost of only about 0.70 yuan per mu. It can increase net income by at least 15 yuan. It is suitable for late ripening varieties and for promotion in high yield cottonfields and on cotton grown in saline-alkaline areas. 4) Leaf spraying of potasssum dihydrogen-phosphate. This is a good way to solve the problem of preventing premature deterioration of cotton plants in fields lacking sufficient phosphate fertilizer. On cottonfields seriously lacking in phosphate, it should be sprayed two or three times during the growing season. It will increase yields by a general 10 percent or so, or by as much as 20 percent at a cost of only about half a jin of ginned cotton per mu. 5) Control of growth with suojiean [4799 4634 1344]. Suojiean is a growth regulator,which plays a definite role in controlling rampant growth of cotton plants when the soil is very futile and water abundant. Experiments show that use of this technique can increase yields by 20 percent as compared with like cottonfields where it is not used.

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APPLICATION OF SCIENCE, TECHNOLOGY IN AGRICULTURAL DEVELOPMENT DISCUSSED

Beijing ZHONGGUO NONGKEN [STATE FARMS & LAND RECLAMATION IN CHINA] in Chinese No 3, 1982, pp 26-27

[Article by Mao Naishun [3029 0035 5293] and Ying Anli [2019 1344 3810]: "Problems Concerning the Intensive Farming and Land Reclamation in Xinjiang"]

[Excerpts] During the readjustment of the national economy, state farms must count mainly on their inner strengths for expanded reproduction. In other words, they must strive to raise the level of intensified farming on the basis of their present production conditions.

Intensified Farming Is the Path that the Farms Must Follow in Developing Production

Although land resources are abundant in Xinjiang, land benefited by water conservancy projects is limited. Therefore, resources must be concentrated on improving the existing arable areas. Through the adoption of intensive farming, not only can the utilization rate of land be greatly improved, but it can also, improve that of water. For example, by using plastic sheets in planting cotton and by using 445 cubic meters of water or 140 cubic meters of water more than necessary per mu of land, Farm No 3, Team 10 of Regiment 148 has more than doubled its per mu output of unginned cotton to 230 jin and increased the utilization rate of water by nearly 100 percent.

At present, there is a tremendous surplus of the labor force engaged in land reclamation in Xinjiang, and, in addition there is a great natural growth rate each year. The problem caused by this unemployed labor force cannot possibly be resolved by extensive expanded reproduction at present. This situation has forced us to accelerate the development of intensive farming.

Xinjiang is an agricultural region that can be a high producer, and the per unit yields over a large area of paddy rice, wheat and unginned cotton have exceeded 1,200 jin, 800 jin and 200 jin respectively, every year, so it is perfectly suitable for the development of intensified agriculture. For the time being, many local farms have proceeded from actual conditions to overcome their weaknesses and to bring their superiority into play in an effort to raise the level of their intensive farming. The following are statistics on levels of achievement by 15 farms in 1980:

Allocations of Capital, Expenditures, Income, Profits Recorded by Farms Claiming Over 1 Million Yuan in Profits Each in 1980 Units: mu, yuan

Category	Name	Allocations of capital	Income	Expenditures	Profits	Cultivated Area (10,000 mu)
Farms concentrating on cash crops	regiment 129	132.3	89.9	76	12.7	13.38
	regiment 29	149.6	239	179.4	50.82	12.61
	Shihezi General Farm	114.9	139.9	122.13	16.95	25.66
	regiment 30	185.2	223.7	176.41	43.16	7.29
	regiment 150	79.28	141.8	128.7	8.7	18.68
	regiment 149	72.28	112.8	107	6.35	18.62
Industry-oriented farms	regiment 71	140.2	97.16	69.6	17.06	10.2
	regiment 137	402.2	294	211	48.8	2.77
	regiment 36	460	355.8	265.5	50.9	2.58
Farms concentrating on grains	regiment 166	34.29	34.29	25.07	7.29	25.37
	regiment 66	89.8	71.64	56.8	12.4	10.93
	regiment 161	47.5	40.67	28.9	8.74	16.35
	regiment 77	58.49	46.7	30.6	11.3	12.48
	regiment 75	36.5	28.6	23.1	11.2	10.52
	regiment 168	48.56	44.6	35.1	7.24	15.28

This table shows that although investment in each mu of land was high, profits yielded by each mu of land were even higher. For example, profits yielded by each mu of land in areas of Regiment 29, Regiment 30, Regiment 137, Regiment 36 and others were nearly 50 yuan, while profits yielded by each mu of land and recorded by the sixth company of Regiment 26 were 112.4 yuan. This means that farms of all kinds can raise their profits to a new level, no matter whether they are large or small and grow cash crops or food grains as their main products. They have provided important experiences for intensive farming to produce greater economic results.

Intensive Farming Must Emphasize Economic Results

For years, the Xinjiang land reclamation system has developed agriculture by relying mainly on concentrating investments in the establishment of new farms and by increasing output through extension of arable land, that is to say, primarily through extensive expanded reproduction. After the "Great Cultural Revolution," it suffered serious setbacks from the mismanagement of agriculture. In the last several years, although production has revived rather quickly and there have been some advances, the picture remains basically unchanged. From the economic point of view, the returns on investment remain very low.

Compared with 1957, the entire land reclamation area in 1980 saw a decrease instead of an increase in the average value of output and profits per mu of land despite the fact that its investment of manpower was the same, and its investment in terms of horsepower of farm machinery, chemical fertilizer, fixed assets, and working capital was 2.24, 6.04, 2.25, and 1.59 times greater than in 1957 per mu of land. This means that at present, agriculture in the Xinjiang land reclamation area remains in an embryonic and inefficient farming stage. Increased investment in this case will not necessarily lead to corresponding increase in income. This problem caused by failure to raise harvests through extension of production is highly striking. The term "increased production" here means an increase in output which will be made possible by increased investment of capital, manpower and material resources. The term "additional income" here means an increase in the net value of output made possible by increased capital investment. The realization of additional income from increased production is conditioned on the fact that the returns on each investment, in the form of specific value of output, is higher than the investment itself. In other words, the marginal economic returns should be much larger than the investment itself. This reminds us that the collective economical management cannot be construed by anyone as merely a tendency to make as much investment as possible in each unit of land but as an endeavor to reap maximum net profits from minimum investment.

Advanced Science, Technology Is Essential to Collective Economical Management

Collective economical management is invariably inseparable from advanced technology and proficiency in management. The adoption of advanced science and technology is crucial to the realization of increased production and increased revenues on a continuing basis, under the condition of limited investment in the same acreage. The term "advanced science and technology" here refers to matters that are not only technically advanced but also locally applicable and economically sound. These three elements can be combined to produce maximum economic results when they are properly applied. Practice proves that an advanced technology is viable only as long as it is economically sound. The following experiences we have gained are valuable to our future operations.

1) Cropping strategy must be reshaped. For years, various farms have made efforts to reshape their irrational cropping strategy in a way appropriate to the local conditions and in accordance with the principle designed to bring their superiority into play. In this way, they have reaped excellent economic results. Consequently, the cotton acreage increased from 540,000 mu in 1977 to 1.28 million mu of land in 1981. An increase of 750,000 dan in the gross output of cotton can be expected in the future. But an investment of approximately 120 million yuan must be added to the cost of production in order to bring in an additional 160 million yuan in profits. The following is a calculation of economic returns on investments in production of food grains in proportion to economic returns on investment in production of cotton in 1980: the ratio of income per mu of land was 1:3.42; the ratio of cost of production per mu of land was 1:2.08; the ratio of consumption of manpower per mu of land was 1:2.75; the ratio of profits per mu of land was 1:7.46. This means that those areas suited to the growth of cotton crops should be encouraged to grow more cotton crops because doing so will not result in increased investment in capital construction although the cost of production may rise proportionally. This proposal for planting more cotton crops is also in the best interest of various farms because it will prove instrumental in finding outlets for the large unemployed labor force and in increasing the utilization rate of the existing means of production. But this does not mean that Xinjiang can afford to let the gross output of food grains drop at a time when it is still plagued by a lack of communications and transportation. Nevertheless, steps must be taken by Xinjiang to reduce its grain growing acreage and increase its cotton cropping acreage so that it can boost its

revenues enormously, through the execution of a strategy to maintain its gross output of food grains at the present level by means of increasing the per unit output of grains. As soon as this adjustment is made and the level of the collective economical management is raised, the introduction of specialization will become inevitable for various farms to develop their "hot-selling products," just as Regiment 29 has done. This regiment has produced some "hot-selling items" capable of earning nearly 10 million yuan in profits a year as a result of its efforts to introduce the specialized process of production to the growers of grains and cotton crops and the processed enterprises.

2) Advanced technology must be adopted. Before liberation, no cotton crops were grown in the Mahe River Basin area. Following a successful experiemnt with cultivation of this crop, the area has quickly converted itself into an important cotton producing center. In 1980, the cultivation of cotton crops with plastic sheets proved a success. In 1981, some 20,000 mu of land in the area were planted with cotton. In the end, it reaped more than 150 jin of cotton per mu of land, one-third more than cotton crops sown in other farmland. In some plots, the per mu output went up to 300 jin. The technique for growing cotton with plastic sheets will cost 40 to 50 yuan more than previously, but will bring an additional income of over 100 yuan per mu of land. The technique for cultivating cotton crops with multiple plastic layers is an agricultural feat that rivals the work of nature which can function as countless nurseries and water reservoirs capable of prolonging the frost-free period and improving the utilization rate of liquid fertilizer. This technique can be also adapted to growing many other crops.

For the past several years, we have used plastic sheets to prevent seepage, thus cutting to a minimum the expenditure for maintenance of aqueducts and reducing construction costs 60 percent compared to the use of concrete as a means to prevent seepage. This success has cleared the way to prevent seepage on a grand scale. In 1980, 146 kilometers of seepage-proof canals were completed with this technique and in 1981, more was achieved in this regard.

In the course of raising domestic animals, many units have studied the problem concerning the composition of feeds that can bring more meat in return and produce greater economic results.

These examples show that applicable new technology can play a very remarkable role in promoting production. But this does not mean that we can ignore the frequently used technology. At present, we must concentrate on doing a good job of training workers in basic technical skills so that the contingents of workers can quickly raise their technical skills to a new level.

3) It is necessary to increase the application of chemical fertilizers and other locally applicable chemicals for agricultural purposes. A series of experiments show that the consumption of 1 ton of chemical fertilizer will result in an increase in production equivalent to crops grown in 20 mu of land. Recently, the United States has increased its agricultural production by 30 to 40 percent due to the increased application of chemical fertilizers. During the past several years, our consumption of chemical fertilizers, an important factor in increased production, has been rising so fast that the demand for such com-

modities now has far exceeded supply--for example, 16 jin of pure nitrogen and 6 jin of phosphorus are required to increase every 100 jin of unginned cotton in production. This means that relying on the natural fertility of soil to increase production is far from sufficient; in the future, we must increase the production of chemical fertilizers in order to meet the growing needs for expansion of agricultural production on a grand scale.

4) It is necessary to improve the performances of farm machinery. Mechanized farming will have an important role to play in "tapping potential, structural reform and transformation." Now serving land-reclamation and agriculture throughout the region are farm machines totaling 958,500 horsepower which can now do 70 percent of the farming for major crops at a cost of 130 million yuan to the state, equal to 12 percent of agricultural expenditure. They consume large quantities of fuel and other raw materials each year. In the course of increasing production, vigorous efforts must be made to practice energy conservation. To meet the requirements for collective economical management of agriculture, in the future mechanized farming must be geared to serve the purpose of improving land productivity and energy conservation. In the future, the task of laying plastic sheets to pave the way for planting cotton in large areas cannot possibly be fulfilled by manual labor alone. This will require us to overcome technical difficulties in trial-producing plastic sheet-laying machines.

Coordination Between Short-term and Long-range Interests

Agricultural economization is a long-range plan for agricultural development. Whatever we do, we cannot take into consideration merely short-term interests. Nor can we mobilize all our equipment and land resources for just a single short-sighted venture. The management of land reclamation and farms must focus its attention on creating an agricultural production system ensuring high and stable yield, high quality and low material consumption, along with a sound and highly efficient agricultural ecological structure. We must develop agriculture from a broad point of view and build the management of production of agriculture, forestry, animal husbandry, sideline occupations, and fisheries on a scientific foundation. The term "agricultural economization" is not just a reference to the endeavor to increase the per unit output of crops, but the multipurpose utilization of vast acreage or a strategy requiring farms to produce more crops and processed commodities per 10,000 mu of land. We must concentrate on implementing the overall and long-range plans and diversify the economy.

In the long run, agricultural economization should be viewed as a venture particularly emphasizing scientific and technological research and experimentation as well as education in agricultural technology. We must vigorously strengthen leadership over this activity, staff various agencies with enough personnel, increase investment, particularly investment in biological technology, and establish and improve the economic responsibility system associated with science and technology until it becomes perfect. At the same time, the existing force devoted to science and technology should be encouraged to shift its attention to research, experimentation, and the promotion of technology as a measure to enhance the development of science and technology.

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SCIENTIFIC FARMING EXPERIMENTAL AREAS HAILED

Kunming YUNNAN RIBAO in Chinese 8 Mar 82 p 1

[Article by Liu Quanjian [0491 0356 0256] and Zhang Hui [1728 2547]: "Results Outstanding From Province's Multiple Experimentation and Demonstration Areas on Farm Techniques. Use of Multiple Techniques For Rapid Development of Agricultural Production"]

[Text] As a result of the joint efforts of the broad masses of scientific and technical workers, cadres, and commune members, outstanding results have been obtained from the nine multiple experimentation and demonstration areas for farming techniques set up in the province since March last year on the basis of natural zones: Experience in the multiple experimentation areas that have been established shows that the close linking of experimentation, demonstration, promotion and training done in the multiple experimentation and demonstration areas for farming techniques has blazed a new trail for intensifying the spread of scientific and technical results, for developing scientific research, and for advancing agricultural production.

Last year Yunnan Province set up multiple experimentation areas covering an area totaling 278,490 mu in the nine counties and prefectures of Dali, Baoshan, Tengchong, Lincang, Mengzi, Zhaotong, Chuxiong, Guandu, and Menghai. Technicians and local cadres and commune members participating in the work of the multiple experimentation areas comprehensively applied their experiences in increasing yields and scientific and technical achievements as techniques for the promotion of fine varieties, sparse sowing for sturdy seedlings (including the use of plastic film in raising seedlings), planting as early as possible, close planting in rows, scientific fertilization and watering, and multiple measures for the prevention and control of diseases and insect pests.

Tremendous Increases in Grain Output. The multiple experimentation areas increased output of grain by a total of 29.82 million jin for yields averaging 107 jin per mu. The rate of yield increase amounted to 15.38 percent. Fengyi Commune in Dali County, which has always been a high yield area, last year had rice yields of 1,035 jin per unit of area over an area of more than 36,000 mu in the multiple experimentation area. This represented an 85 jin per mu increase over 1980. The intermediate yield Guandu area's somewhat more than

33,000 mu multiple experimentation area produced yields per unit of area that increased from the 753.2 jin of 1980 to 908 jin for an increase of 147.6 jin per mu, a 19.6 percent increase. In Menghai County, where yields have always been low, the 40,100 mu multiple experimentation area last year produced rice yields of 664.4 jin per unit of area, which was a 255.14 jin or 62.34 percent increase over 1980.

Further Research on Development of Results in the Course of Promoting Scientific and Technical Results. While promoting integrated use of the results of multiple techniques, individual multiple experimentation areas also conducted confirmatory experimental research in how to develop further integration of multiple techniques, which accumulated materials for the standardization of integration of multiple techniques. On the basis of spread of multiple techniques, the Baoshan multiple experimentation area, for example, centrally arranged for a 500 mu field plot to be used as a fine varieties area for experiments on seedling quality, extent of close planting, and fertilization methods. As a result of the experiments, verification was obtained and data accumulated on suitable areas for different fine varieties and different kinds of farming and care methods to be used. It provided a basis for future use of the integration of multiple techniques more suited to local natural conditions and for their standardization in the development of existing results.

Training of Technical Forces and Spread of Scientific Knowledge. In the course of experimentation, demonstration and promotion of scientific and technical results, each multiple experimentation area also trained technical forces for rural villages in various ways, spread scientific knowledge, and established a mass technical mainstay cadre corps. They trained a total of 10,000 farm science personnel including production brigade and production team leaders, spending more than 200,000 yuan for training. Looked at in terms of economic benefits, this investment of more than 200,000 yuan in intellect increased grain output by more than 29 million jin for a 1:10 ratio, meaning that for every yuan invested, 10 yuan worth of benefits were obtained.

In order to improve the multiple experimentation areas further, the Provincial Academy of Agricultural Sciences, the Provincial Science Commission, the Provincial Agricultural Commission, and the Provincial Department of Agriculture recently jointly convened a Provincial Multiple Experimentation Area Summarization Conference, which planned for an increase of the multiple experimentation area to 11 sites this year, with a more than 300,000 mu increase in area. Plans call for operating the experimentation areas primarily for the development of research. Over the near term, emphasis will go to grain with gradual development into economic diversification. Later on they will become experimentation and demonstration areas for all around development of farming, forestry, livestock raising, sideline occupations, and fisheries, making them centers for experimentation, demonstration, promotion and training for all of the province's natural areas.

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WAYS TO ASSURE WATER TO BEIJING, TIANJIN SUGGESTED

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[Article by Lu Yazhou [7120 0068 3166] and Gu Dingfa [7357 1353 3127], of the Natural Resources Comprehensive Study Commission, Chinese Academy of Sciences: "Six Suggestions For Assuring Water to Beijing and Tianjin Municipalities"]

[Text] Why has there been a water shortage in the Beijing-Tianjin area for the past 2 years? The continuous drought since 1980 is, of course, one reason, but more important reasons are inappropriate use of water and lack of serious attention to the construction of water sources. If the conflict between supply and demand for water resources in Beijing and Tianjin are to be fundamentally solved, in addition to the strengthening of management over the use of water, the following six tasks must be emphasized.

1. A Good Job Must Be Done of Building Water Resources, With Planning as a Whole for Water Use in Upper and Lower Reaches

Beijing and Tianjin are located on the lower reaches of the Hai He where the building of water sources must proceed from overall arrangements for the entire river basin. During the 1950's, water resources were very good in Tianjin. However, since 1958, many reservoirs have been built on the upper reaches of the Hai He, and on the middle reaches farmland irrigation has developed over large areas. By the 1970's, the volume of water on the lower reaches had been reduced to 2 billion cubic meters, only one-fourth the volume of the 1950's. During the 1960's, Tianjin depended for its supply of water on the Miyun, Gangnan, Huangbiya, Wangkuai, Xidayang, and Jiucheng reservoirs. Later on, except for the Miyun and Guanting reservoirs, the reservoirs ceased to provide water, with the result that Tianjin gradually experienced a water shortage. Today, 18 oarge and medium-size reservoirs have been built on the upper reaches of the Ganting reservoir, causing a gradual reduction in the volume of water on the upper reaches and causing difficulties in control and use of Guanting reservoir.

In order to assure water for Beijing, if further development of water resources is to be carried out on the upper reaches of the Guanting and Miyun reservoirs, overall planning has to be provided on the principle of concurrent concern for the upper and lower reaches. In addition, both the Beijing and Tianjin areas must give attention to the building of their own sources of water, carrying out planned construction of water storage and water diversion projects to increase water sources.

2. Supply of Water for Urban Life and Industry Must be Separated From Supply of Water for Agriculture

Water used in Beijing and Tianjin is used mostly for daily life, industry, and agriculture. Agriculture uses the largest amount, taking 65-75 percent of the total. Only 4-7 percent of the total voluem is used for daily life. Water supplied to urban areas of Beijing and Tianjin from fairly large water sources such as the Miyun, Guanting, Yuqiao, and Panjiakou reservoirs has to traverse vast farmlands, and without the necessary management and engineering measures, it is very difficult to assure the cities a supply of water. Therefore, in order to assure normal water supply to the cities for daily life and industry in years of particularly serious drought, their supplies should be separated from those of agriculture, and an independent system for supplying water for urban life and industry must be built gradually to prevent competition from agriculture for water.

3. Sensible Management of the Use of Large Resevoir Water Resources

The Miyun reservoir is a large reservoir that has served to regulate water for many years. It is one of Beijing's dependable sources of water. However, some problems currently exist in the equitable allocation of water from reservoirs. For example, in working up flood plans, no investigation or study of units using water is made; distribution plans are made solely on the basis of the amount of water in the reservoirs. Sometimes plans allow for the use of whatever water is in the reservoirs, so that reservoirs are unable to play a genuine role as regulators over many years. The Guanting reservoir was also once a large reservoir that regulated water over many years. However, as a result of serious erosion on the upper reaches and excessive accumulations of silt in it, the ability of the reservoir to regulate has declined. In the future both the Miyun and Guanting reservoirs should equitably allocate water, and their upper reaches should be designated water conservation forest preserves for genuine water and soil conservation to reduce silting of the reservoirs.

4. Vigorous Promotion of New Techniques for Farmland Irrigation

During the past several years, spray and drip irrigation have developed in China, but area in which spray and drip irrigation is used is still less than 2 percent of the effective irrigation area. In the Beijing-Tianjin area it it even less: only 0.6 percent. Spray and drip irrigation saves 40-60 percent of the water required for flood irrigation. Currently, agricultural use of water in Beijing and Tianjin amounts to 4.5 billion cubic meters annually, and the effectively irrigated area is 70-80 percent. If spray and drip irrigation were to be used on 70 percent of the vegetable fields and 30-40 percent of the grainfields in the irrigated area, a saving of at least 1.5-2 billion cubic meters annually could be effected. This amounts to the total volume of water used by Beijing for 1 years for daily life and industry.

5. Improvement in Multiple Utilization Rate of Water Used by Industry and Restriction of Development of Industries Consuming Large Quantities of Water

Many representative examples exist in China of conservation of water by industry. In Dalian, for example, the recycling rate for cooling water already stands at 88 percent, and the multiple utilization rate for water used in industry is 75 percent. At present the multiple utilization rate for water used in industry in Tianjin is 50 percent; in Beijing, it is 40 percent. Consequently the potential for continued development of water conservation by industry is still very great. About 70 percent of all water used in industry is for cooling, but among Beijing industries, the recovery rate for cooling water is only 40 percent. Annually about 200 million cubic meters is discharged into sewers. This water has been changed only a little, except that its temperature is somewhat high. All that is needed is the building of cooling equipment and it can continue to be used. In future, the distribution of industries in both Beijing and Tianjin must proceed from local water source realities. There must be little or no building of heavy industries or chemical industries that consume large quantities of water.

6. Readjustment of the Structure of Agriculture and Reduction of the Rice Growing Area

Precipitation in the Beijing-Tianjin area is between 500 and 700 millimeters per year. Development of agricultural production must proceed from this fundamental natural circumstance. Every mu of paddy rice requires 800 cubic meters of water, and if the growing of paddy rice is not rooted in local water resources, there is no use expecting that water will be diverted from elsewhere. Furthermore, rice grown in the Beijing-Tianjin area is prone to damage from low temperatures, so yields are not sufficiently consistent. Therefore, the rice growing area should be limited in the Beijing-Tianjin area, where water resources are not abundant. Instead, more drought-tolerant crops should be grown; otherwise every time there is a drought year, agriculture will "fight for water" with the cities.

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REVIVED EMPHASIS GIVEN PLANTING OF PULSES

Lanzhou GANSU RIBAO in Chinese 23 Jun 82 p 1

[Article: "Province Expands Pulse Crop Area This Year. Development of Pulse Production To Promote Benevolent Cycle in Agriculture"]

[Text] A provincewide conference on pulse production concluded in Lanzhou on 20 June. The correspondent obtained the following from this conference: This year the area throughout the province sown to various kinds of pulse crops will be 3.79 million mu, a somewhat more than 200,000 mu increase over 1981. This provides a fine foundation for revival of the traditional crop rotation system, for a combination of use and nurture of the soil and a combination of farming and livestock raising.

During the past 2 years, with implementation of self-determination for production teams and increased inprices paid by the state for the purchase of soybeans and broad beans, enthusiasm among the broad masses within the province for development of soybean production has remarkably increased, and readjustment of crop patterns on the basis of local conditions has begun. The traditional crop rotation system has been revived, and the area sown to pulses has risen year after year. In drought stricken Dingxi Prefecture in central Gansu, for example, which had been "shot to death" for a time, the fame of flat beans has been restored, and the area sown to peas and flat beans has increased very rapidly. This year the area sown to peas and flat beans in the prefecture has been enlarged to 1,142,600 mu, 54 percent more than in 1978 and almost an all-time high. Tianshui and Wudu, the principle soybean producing prefectures in the province have multiple cropped soybeans over wide areas. This year the multiple cropped and intercropped soybean area amounts to more than 300,000 mu, which is more than 60 percent of the total soybean growing area of the province. Linxia Hui Nationality Autonomous Zhou has devoted attention to broad beans as a "hot selling" product for export. Since 1977 it has kept working on farm experiments for high yields from broad beans over large areas, and during the past 5 years broad bean yields have averaged about 340 jin per mu, which is higher than for wheat. On high yield farm experiment fields, yields averaged around 800 jin per mu.

Following analysis and study, comrades attending the provincewide conference on pulse production acknowledged that Gansu Province has a long history of farming soybeans, and that revival and development of pulse crops is an effective way in which to promote a benevolent cycle in agricultural production. Inasmuch as soybean crops in the province have everywhere been carelessly grown, varieties mongrelized and degenerate. and yields both low and inconsistent, everyone acknowledged need to promote advanced experiences for increasing yields and to devote efforts to improving yields per unit of area. First it is necessary to give serious attention to breeding of soybean varieties and to introducing varieties from elsewhere, to establish and perfect a pulse crop fine variety propagation system and, at the same time, to change the farming method of "no fertilization of bean fields but looking to heaven for help." Farming techniques have to be improved, fertilizer used, and prevention and control of diseases and insect pests and field care intensified. Furthermore, research on pulses and technical promotion work has to be strengthened.

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AGRICULTURE'S NEED FOR GRASS, FORESTS IN GANSU UNDERSCORED

Lanzhou GANSU RIBAO in Chinese 17 Jun 82 p 1

[Article by Letter Writer Feng Jixin [7458 4764 2450]: "Economic Effectiveness Is Also a Core Question in Agriculture"]

> [Text] Editor's Note: On 13 May, Comrade Feng Jixin wrote a letter to the Dixgxi Prefecture CCP Committee in which, on the matter of the planting of grass in Dingxi Prefecture, he emphasized that economic effectiveness is likewise a core question of general significance in agriculture. The letter is published below. All jurisdictions should undertake investigation and study and summarize the lessons of experience to do a good job in accordance with the principle of improved economic effectiveness of planting trees and growing grass, and to do a good job in every aspect of agricultural production.

Dingxi Prefecture CCP Committee:

After reading in GANSU RIBAO, a reporter's article titled, "Status and Problems in Growing Grass in Dingxi Prefecture," I felt the problems raised deserved our attention. It seems that economic effectiveness is not only a core question in industry, but is a core question in agriculture as well. In agriculture, including the planting of trees and growing of grass, it will not do to give no concern to economic effectivness.

In Dingxi Prefecture, the greatest threat to agriculture is multiple drought disasters. Here ground cover is scarce, the climate arid, and erosion serous, which has meant that for a long time agriculture has been in a vicious cycle. Reasons accounting for this situation are numerous. There are both profound historical reasons and genuine work problems, but most important is the contravention of natural laws and destruction of the ecological balance. This has included a plundering of nature, reckless felling of forests, and ill-advised clearing of land that has brought about soil erosion and loss of soil fertility leading to increased frequency of drought disasters, etc. Therefore, if this problem is to be solved fundamentally, it will be necessary to persevere in energetic planting of trees and growing of grass, to develop the livestock industry, and to increase organic fertilizer, plus building some projects in a planned way, things such as building of terraced fields and building water conservancy projects. In this way, production conditions can be gradually fundamentally transformed to turn the vicious cycle into a benevolent cycle. Therefore, it is necessary to educate our cadres, and particularly leadership cadres above the county level, in the need to clearly establish two concepts and to effect two changes. By this is meant, first, establishment of a concept of large-scale agriculture, and second, establishment of a concept of changing the vicious cycle in agriculture to a benevolent cycle. Sole concern about grain in agriculture has to be changed to concurrent attention for economic diversification, and sole building of water conservancy has to be changed to concurrent attention to water and soil conservation and improvement in ground cover. In these tasks, doing a good job of planting trees and growing grass is the key.

For the past many years the state has provided no small amount of investment for the planting of trees and the growing of grass in the province's central prefecture, but results have been slight. A study of reasons why shows the main one to be that all levels of leadership cadres lack perception of the importance of growing trees and planting grass. They have yet to regard this work as a strategic action for changing the ecological environment and advancing development of agricultural production. In many places the planting of trees and the growing of grass halts at conferences, in planning, or in rhetoric without being implemented at the grassroots or being translated into mass action. There is neither any deepgoing spread of scientific knowledge about the planting of trees and the growing of grass among peasants and helping the masses understand practical difficulties in planting trees and growing grass, nor is there any strengthening of organizational leadership and spread of representative and advanced experiences in the growing of trees and the planting of grass. Napo Production Brigade in Shichuan Commune, Tongwei County is an advanced model for its achievements in growing grass. Since 1963 it has energetically developed the growing of grass and by 1979 there were 600 mu of grass in the brigade. The number of large livestock has grown to 109 head; there were 410 head of sheep and goats, 180 hogs, and the amount of barnyard manure increased fourfold. Output of grain and oil-bearing crops doubled. Grain output averaged 1,000 jin per capita for self-sufficiency with a surplus for 17 years in a row. If such a fine model has remained unpromoted for many years, is this not a question of leadership?

The problems existing in Dingxi Prefecture in the planting of trees and the growing of grass generally apply to the province as a whole. Consequently, genuine attention should be directed to this problem. I suggest the following:

1. Prefecture and county CCP committees should place the planting of trees and the growing of grass on their daily agenda of important things to do. Several times each year they should hold special discussions on tree planting and grass growing work. There should be planning, inspections, and firm attention to implementation for real benefits with no empty talk. There should be conscientious summarization and promotion of advanced models and advanced experiences, attention going to solution of difficulties and problems the masses have in the planting of trees and the growing of grass.

2. There should be special funds devoted exclusively to use as subsidies for afforestation and the growing of grass that should not be spent recklessly or diverted to.other uses. There should be genuine concern for economic effectiveness, every mu planted maturing.

3. Intensification of the spread of knowledge and education as well as technical direction about the growing of trees and the raising of grass. Today, not only do the masses have little scientific knowledge or understanding about the planting of trees and the growing of grass, but our cadres do not know much either. Full use should be made of the role of scientific and technical personnel, and they should be asked to impart knowledge in this regard to cadres and the masses to improve the knowledge of the cadres and masses for a genuine change in their conscious actions.

4. There should be breeding and promotion of fine varieties of trees and grasses suited to local realities. For areas in the central part of the province, drought tolerant, fast growing tree varieties should be selected. In the growing of grass, esparcet [Onobrychis sativa], purple flower alfalfa, shadingwang [3097 2092 2489], and Sudan grass may be promoted. These grass seeds are in fairly short supply, esparcet particularly so. Efforts will have to be made to collect, breed, and import them from elsewhere.

Feng Jixin

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PROVINCIAL CCP OFFICIAL EMPHASIZES PRACTICAL EDUCATION

Lanzhou GANSU RIBAO in Chinese 12 Jun 82 p 1

[Article: "Development of Technical Agricultural Education Is a Top Priority Task in Rural Villages. During Investigation and Study in the Rural Villages of Longdong, Liu Bing Noted That Following Institution of Production Responsibility Systems, Rural Education Will Have To Be Done Well With Serious Attention Given the Spread of Agricultural Science and Technology To Improve Peasant Understanding of Nature and to Improve Natural Abilities "]

[Text] According to a report carried in GUANGMING RIBAO, when Gansu Provincial CCP Committee Deputy Secretary Liu Bing recently conducted investigation and study in Longdong, he noted that following rural implementation of production responsibility systems, rural education will have to be done well with extremely serious attention given the spread of agricultural science and technology to develop peasant intellectual resources.

During mid and late June, Comrade Liu Bing, who has just been transferred from Lanzhou University to Provincial CCP Committee work, went to rural villages to investigate and study. He travelled through seven counties in the old revolutionary base area of Qingyang Prefecture where he visited communes, brigades, and peasants, observing the rural situation.

Liu Bing believes that following establishment of production responsibility systems so that production relationships can be readjusted, it is also necessary to devote attention to development of productivity and to steadily readjust the relationship between man and nature. In terms of the situation in Gansu, two conflicts impair the overall situation in agricultural production. One is the conflict between the need for steady growth of agricultural production and the constant occurrence of natural disasters, and the other is the conflict between improvement in the agricultural labor productivity rate and the peasants lack of scientific and cultural knowledge. Solution to the first of these conflicts entails vigorous planting of trees and growing of grass to increase the forest and grass ground cover rate to improve the ecological environment and gradually realize ecological balance. For the second, the solution lies in firm attention to education and the spread of scientific and technical knowledge about agriculture, and the training of a new generation of cultured peasants who understand technology and who are able to manage.

Liu Bing believes that improvement in the ecological environment is part of the transformation of labor, and that attention to education is part of improvement of the quality of workers. Both of these matters relate to how to understand nature and change nature. He said that looked at in terms of improvement of people's knowledge and improving natural capabilities there is nothing of greater importance for the farflung rural villages than development of technical agricultural education. We have come to realize in the course of investigation that whether in large field production, economic diversification, or the planting of trees and the growing of grass, the kinds of people who do well are of just two kinds. One is the new peasant who has cultural knowledge and a grasp of a certain amount of science and technology. The other is those who, despite their lack of culture, are old farmers with abundant practical experience. Both these kinds of people are able to plan, to farm, and to administer. For example, Zhoujia Commune in Zhengning County has a primary school teacher whose wife is an intellectual youth who returned to the village. In addition to doing a good job of farming the fields for which it is responsible, his family has also learned how to keep bees. The family has raised 20 hives of bees, and last year it earned more than 500 yuan from the sale of honey. This year, in addition to keeping bees, it also used native methods to hatch 300 chicks. In another example, Yiman Commune in Qingyang County has a 62-year-old peasant with much experience in production. In addition to farming the fields for which they are responsible, he and his wife have painstakingly raised long haired rabbits to become a specialized household. Last year they raised 50 rabbits, earning an income of more than 700 yuan from the sale of rabbit fur. As of April this year, their rabbit raising had grown to 72 rabbits, and expected earnings this year will be 1,000 yuan.

Liu Bing said that the foregoing examples show that whether the knoweldge has been learned from books or whether it is the direct experience of peasants, so long as it is demonstrated to be effective in practice, it is scientific and extraordinarily precious. Once a peasant understands science and technology, new productivity can come into being, all agricultural production being transformed thereby.

Liu Bing believes that a current problem is the general lack of peasant knowledge of science and culture. Agricultural science and agricultural production are divorced from each other. Many peasants are still separated from modern science. They do not know what nitrogen, phosphate, potash are, or what ecological balance means. Many places continue to destroy forests to clear land, destroying the vegetation cover and hastening erosion. Agricultural production is still in a vicious cycle. This state of affairs creates a sharp contradiction with the mass peasant enthusiasm that is now surging, and is far from being recognized by people. Right now it is necessary to cry out loudly to the public that simultaneous with the establishment and perfection of agricultural production responsibility systems must come a general increase in peasant scientific and cultural levels, scientific and cultural knowledge being linked to agricultural workers.

Liu Bing said that a fundamental way in which to bring about general improvement in peasant scientific and cultural levels is to take a firm grip on rural education. He said the school attendance rate in Qingyang Prefecture has fallen and there is a great increase in illiteracy. Within the course of a single year, more than 5,000 middle and primary school students in the prefecture dropped out of school. Why is this? Liu Bing does not entirely agree that with the saying that with "peasant household assumption of full responsibility for task completion;" the kiddies went back home to tend the cows and sheep. He said that following peasant household assumption of full responsibility for task completion, some peasants did experience such a need, but that the main reason for the decline in rural school attendance rates lay in education work itself, specifically in education and agricultural production being divorced from each other. Peasants felt that sending sons and daughters to school was of no use and they were not very interested in education.

Finally Liu Bing said that in order to change this state of affairs and make education meet the needs of agricultural production, it is necessary, on the one hand, to devote attention to the spread of education and to all sorts of after hours education, while making up ones mind, on the other hand, to restructure rural middle school education. Rural middle schools and the upper grades of primary schools should increase the number of courses in agricultural scientific and technical information. Some middle schools should be converted to agricultural middle schools, only a minority number being retained as regular middle schools. In this way it will be possible for most students to return to the countryside following graduation with "arms" they can use, able to engage in agricultural production with high proficiency. He said that to take Qingyang Prefecture as an example, annually each county has several hundred or as many as a thousand middle school graduates return home to farm. If all of them had studied a certain amount of farm science, and were able to select fine varieties, to use chemical fertilizers, to use pesticides, to propagate seedlings, to graft, to raise livestock and poultry, their return would be tantamount to several hundred or up to a thousand farm technicians arriving. If each of them attended to production in his own home, that would be in several hundred or up to a thousand households. If these were carried on for 10 to 20 years, every single production team and household would have a mass of agricultural technical personnel. They would be able to spread advanced techniques in scientific farming and economic diversification to every corner. Therefore, we should use strategic vision in dealing with rural education. We should not stint on spending the capital or stint on doing all that is necessary to do a solid job of rural education so that every peasant will become intelligent. When that time comes, our agricultural productivity will produce a quality take-off, everyone's understanding of nature and ability to transform mature will be greatly increased, and the vistas for agricultural production will become broader and broader.

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AGRICULTURAL, SIDELINE PRODUCT PROCUREMENT IMPROVED

Guangzhou NANFANG RIBAO in Chinese 4 Jul 82 p 1

[Article: "Improvement This Year in Province's Agricultural and Sideline Procurement Work; Adherence to Planned Economy as the Key With Concurrent Concern For the Welfare of the Country, Collectives and Individuals"]

[Text] The correspondent obtained the following from the provincial Finance and Trade Work Conference that began here yesterday. This year the province's agricultural and sideline products procurement work has shown improvement, beginning a turnaround in the trend of declining procurement of the past several years. Out of 27 varieties of category 1 and caregory 2 goods, the procurement of 16 kinds showed an increase compared with the same period last year.

Between January and May this year, the total output value of agricultural and sideline products procured amounted to 1.712 billion yuan, a 12.3-percent increase over the same period last year. This included procurement at list price amounting to 849 million yuan, a 7.8-percent increase, and procurement at negotiated prices amounting to 863 million yuan, an increase of 16.9 percent. Category 1 and category 2 goods for which procurement increased over the same period last year were foodstuffs, edible oil, sugarcane, lives hogs, aquatic products, jute and ambari hemp, cassia bark, citronella oil, rush bags, moso bamboo, flue-cured toabcco, tea, cowhide, pineapple, lumber, li bamboo [6853 4554], with sugar output, procurement and quantity transferred reaching all-time highs. This is the result of the adherence of the province's rural villages to a program of taking planned economy as the key with market regulation being supplementary, and concurrent concern for the state, the collective, and the individual in agricultural and sideline procurement work.

All jurisdictions have accumulated many fine experiences in the procurement of agricultural and sideline products. In Gaozhou County, for example, the food department adopted "procurement of every hog, making separate final accountings for list price and negotiated price," in the procurement of live hogs. The Lianshan County Supply and Marketing Cooperative adapted general methods to local situations in order to advance development of economic diversification in mountain regions. In Boluo County, the Henghe Supply and Marketing Cooperative dealt in agricultural and sideline products jointly with communes to earn the praise of both agriculture and business.

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SOLUTION TO RURAL FIREWOOD PROBLEMS OFFERED

Harbin HEILONGJIANG RIBAO in Chinese 7 Jun 82 p 2

[Article by Engineer Zhao Xitai [6392 6932 3141]: "Speed up Solution to Problems in Energy Use in Daily Rural Life"]

[Text] Severe Shortage of Energy for Use in Daily Rural Life

In recent years it has become harder and harder for the province's rural villages to get firewood. A remark circulates among the peasantry to the effect that "it is not what goes into the pot but what goes under the pot that one has to worry about."

In March 1981, we conducted a survey in Baiquan and Mingshui counties. In neither county did peasant households have firewood for the lunar new year. Shangsheng Commune in Baiquan County has 16 production brigades with a total of 5,450 households of which 11 production brigades containing 3,780 households lacked firewood. Households without firewood for from 1 to 3 months numbered 1,100. Households lacking firewood for 6 months numbered 1,200, and another 1,080 households lacked firewood for from 7 to 8 months. They could do nothing but bear the cold, roll straw into cylinders, gather roots of weeds and grass, and burn ox, horse, or pig dung. Some even shared kangs, rooms, and households.

Reasons contributing to this state of affairs were numerous. The steady increase in rural population: the decrease in cultivated land per capita; the increasing decline in the amount of plant stalks and stems each person receives; the steady expansion of the area sown to economic crops (such as sugarbeets and flax) with corresponding decline in output of stalks and stems; destruction of forests and of grasslands when there is nothing to burn, the greater the destruction of forests the more severe the shortage of firewood, and the more the destruction of forests, the greater the shortage of firewood, as well as the beginning in certain areas of soil desertification; a decline in soil fertility; wanton destruction of the ecology; and continuous depradations of natural disasters are all reasons. Unless ways can be found soon for prevention and control, the consequences will be dreadful to contemplate.

Ways To Solve Rural Energy Problems

1. Change in the Senseless Ways of Using Energy. For a long time, plant stalks and stems have been the major biological source of energy consumed in rural villages. Looked at in terms of rural realities, for a very long period of time in the future stalks and stems and firewood will continue to be the major sources of energy used in daily life. However, at the present time the ways in which energy is used in daily rural life are backward and waste is very great. The thermal utilization rate is only 10 percent. Not only is the energy utilization rate too low, but the nutrient materials (such as coarse proteins and sugars); and the organic matter contained in stalks and stems are burned up, while only some potash fertilizer remains from the nitrogen, phosphate, and potash they contain.

One readily workable and very beneficial way in which to change this form of using energy is to promote use of stoves that economize burning of firewood. When such stoves are used the thermal energy utilization rate from stalks and stems may be doubled. Households that formerly went without firewood for 5 to 6 months each year would have just about enough to burn.

In order to get full use out of stalks and stems, efforts will have to be made to realize optimum energy use methods. Use of stalks and stems as fooder for the feeding of livestock and poultry and then using their dung to produce methane gas, followed by use of the organic nitrogen, phosphate, and potash as fertilizer is one way.

Through such utilization, the thermal utilization rate can reach 60 percent, and nutrient materials and organic matter, nitrogen, phosphate, and potash all are used to the full, plus many agricultural and sideline products are provided humanity.

2. Growing of Firewood Forests. Since ancient times, firewood forests have been a traditional energy source for peasant families. Through the building of firewood forests, not only can tree branches be used as firewood and tree leaves be put into pits to ferment and produce methane gas, but the timber problem can also be partly solved and the ecological balance improved. During the 1960's Mingshui County had a 158,000 mu stand, or an average 4.3 mu per household. Not only did the rural villages have more than enough firewood to burn, but frequently when the weather was right they had bumper harvests year after year. By 1978, however, only 38,000 mu remained, an average of only 0.6 mu per household. There was a serious firewood shortage; drought and waterlogging disasters regularly occurred, and lean harvests were reaped year after year.

In Heilongjiang Province there are barren mountains and slopes, ravines, embankments, and four besides [beside roads, ponds, villages, and houses] suitable for the growing of woodlands where the growing of firewood forests should be vigorously encouraged. Hilly regions should be the major places for development of firewood forests, and some barren mountains, wastelands, and unused flatlands around bodies of water should be designated for afforestation, care, and use of individual commune members. Quick growing varieties of trees should be selected, trees that take only from 3 to 5 years to grow from seeds to mature forests, which would be of real significance in rapidly ameliorating the rural energy shortage.

Zoning Daily Rural Life Energy in Places Lacking Firewood

In proceeding from China's realities to solve the problems of energy in rural villages, one can only rely on local rural development for local use.

Principal rural energy sources are small hydroelectric power, methane, firewood forests, the stalks and stems of crops, small coal mines, solar energy, wind energy, geothermal energy, and human and animal dung. These are notably regional, and their areas of distribution are very uneven. Consequently energy resources in individual areas, possibilities for their development and use, and economic effectiveness must be figured out. Zoning of rural energy resources entails centralized on-the-spot investigation of the regional distribution and extent of use of rural energy reserves followed by the demarcation of various kinds of regions to illustrate the energy structure, state of utilization, and existing problems in different areas, and proposal for key ways, in which to further develop and use energy resources. Doing this work well holds major strategic importance for accelerating development of agricultural production and improving the peasants' livelihood.

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IMPROVEMENT OF WATERCOURSE MANAGEMENT HIGHLIGHTED

Harbin HEILONGJIANG RIBAO in Chinese 2 Jan 82 p 2

[Article by Heilongjiang Provincial Water Conservancy Bureau Engineer Liu Jincheng [0491 6930 2050]: "A Good Job of River Course Management to Increase River Flood Prevention Capacity"]

[Text] Historically speaking, Heilongjiang Province has frequently had flood and waterlogging disasters, and last year a flood and waterlogging disaster unprecedented since the founding of the People's Republic occurred. Some streams overflowed to wreak havoc, occasioning definite losses for agriculture and the national economy. Consequently, conscientious management of watercourses and consolidation and improvement in their flood prevention capabilities, and full use and protection of soil and water resources has become a current urgent problem requiring solution.

Heilongjiang Province has more than 1,900 streams large and small. On more than 140 streams have been built nearly 9,000 kilometers of protective dikes and numerous control projects. These flood prevention projects have been relied upon to triumph over six major floods that have occurred in the Songhua Jiang, the Nen Jiang, the Hulan He, the Tangwang He, and the Muling He to insure the safety of agricultural and industrial production and the lives and property of the people.

However, as a result of the influence of "leftist" ideology, standards are low and quality poor for many of the water conservancy projects that have been built. Furthermore, construction was emphasized and management slighted, and watercourse management problems are fairly numerous. One is that because of the building willy-nilly of projects that block the flow of water, the ability of watercourses to handle floods has been reduced. Second, the stability of riverbeds has been damaged. Third, flood prevention projects have been seriously damaged. Fourth, pollution of river water is serious. Unless the aforestated problems are solved with all possible speed, agricultural production and smooth building of the two civilizations [material and spiritual civilization] will inevitably be impaired. Should fairly large flood waters suddenly occur, they might easily overflow to bring disaster, causing great damage in every way.

In order to guard against possible trouble, watercourse management must be buttressed. Most important at the present time is attention to the following several tasks:

1. Strengthening of centralized planning and management of water resources and watercourses on a river basin basis. Watercourse management touches on a wide area and numerous sectors. Needed is the establishment on the basis of the area affected of a centralized management organization responsible for watercourse control, flood prevention, development and use of water and soil resources, and other pertinent technical and professional direction.

2. A thorough clearing away of obstacles. Because of the country's present financial and material circumstances, in the short term river flood prevention will depend largely on existing projects and facilities and on the use of the movement and storage capacity of watercourses themselves. Therefore, complete clearing away of obstacles within watercourses to enlarge the section through which flood waters move is a major measure for improving drainage conditions and improving capabilities to move flood waters. All jurisdictions should resolve to do a thorough job of removing obstacles.

3. Strengthening of management of existing flood movement and flood storage areas. Control projects exist on the major rivers of the provinces, and during the high water season, these are relied on largely for the regulation of flood waters in flood water movement and flood water storage areas. In order to assure flood prevention safety on rivers, enclosing embankments, houses, industrial plants, and highways may not be built carelessly in flood movement and flood storage areas, nor can there be dumping of mine tailings, or refuse so that the capability of watercourses to move flood waters and to store food water will be maintained. When necessary, temporary flood water storage areas may be designated, making minor sacrifices to insure major interests.

4. Strengthening of project management. Attention must be given to the maintenance and repair of existing projects and facilities. Destruction of river embankments, and river bank protection work, and the denuding and wanton felling of woodlands that protect embankments is not to be permitted. When illegal destruction is discovered, units concerned should deal with it severely at once.

5. Strengthening of the legal system for good management of watercourses. Watercourse management requires rules and regulations and a system of personal responsibility. Only through legislation is it possible to be able to assure scientific management of watercourses. Regulations on watercourse management have to be formulated so that laws may be used to regulate waters, and so that management is done in accordance with law.

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RESEARCH RESULTS ON EARLY WEANING OF SHOATS PUBLISHED

Harbin HEILONGJIANG RIBAO in Chinese 14 Jun 82 p 1

[Article: "Scientific Data Obtained on Feeding Standards For Shoats Weaned Extra-Early. Animal Husbandry Research Gains New Results Under Direction of Professor Xu Zhenying [6079 2182 5391]"]

[Text] Scientific data has been obtained on nutritional requirements and feeding standards for shoats that have been weaned extra-early from the time of birth until they weigh 20 kilograms (from 0 to 60 days old). This research has been under the direction of China's famous livestock expert and Northeast Academy of agricultural Sciencies professor, Xu Zhenying. This is an important finding in livestock research that fills a gap in the formulation of a set of complete feeding standards for live hogs.

China's research on techniques for the early weaning of shoats began in 1980; however, no scientific data had ever been obtained on nutritional requirements and feeding standards for shoats from the time of birth until they weighed 20 kilograms.

Professor Xu Zhenying had formerly done this kind of research work. This particular experimental research began in 1981, and participants in the research included Zhang Rundong [1728 3387 2767] of the Northeast Academy of Agricultural Sciences, and Zhang Guofan [1728 0948 5400], Zhu Shiqin [4281 0013 0530], Xu Keming [1776 0344 2494], and Zhang Hong [1728 1347] of the Hongxinglong Farm Management Bureau. They divided into three groups 36 head of Sanjiang white shoats delivered by Caesarean section to carry out experiments on extra-early weaning, which is to say that following birth, the shoats were artificially suckled. Following feeding and metabolic experimental research, nutritional requirements and comparative values for three feed formulas were obtained for shoats weighing from 1 to 5 kilograms, from 5 to 10 kilograms, and from 10 to 20 kilograms. Results showed the following: The entire group of extra-early weaned shoats suckled on each of the three feeding formulas gained weight fairly rapidly and feed consumption was low. The average weight of shoats from birth until 58 to 60 days old was 26.69 kilograms, a 20.8 percent more rapid weight increase than for shoats naturally suckled by sows under normal conditions. Under natural suckling conditions, the number of deaths during the period immediately following birth of shoats (1 to 7 days) was between 25 and 30 percent of the number born; however when extra-early shoat weaning techniques were employed, the death rate could be reduced to 10 percent, or all could survive. For the group of shoats for which food consumption was low, for each kilogram of weight gain the course protein digested energy consumed was lower than feeding standards for shoats of the same age in the United States in 1979, meaning that under identical conditions of shoat weight increase, food was saved in our experiments as compared with the United States.

The success of this research holds major significance in both livestock research and in live hog production. It can both shorten the time of shoat separation from the sow following birth for an increase in her fecundity rate, and can increase the shoat survival rate. In addition, the success of this research establishes a reliable assurance of pig litters without any specific pathogeny, and blazes a new trail for saving large groups of hogs suffering from illnesses.

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HEILONGJIANG

GREATER EFFORTS TO SELL RURAL PRODUCTS URGED

Harbin HEILONGJIANG RIBAO in Chinese 18 Jun 82 p 1

[Article by Commentator: "Broaden Markets for Agricultural and Sideline Products"]

[Text] The Hailun County Poultry Company found markets for greese as far afield as Shanghai, causing rural goose-raising enterprises that were in decline to climb again rapidly. Within somewhat more than a year, the number of geese raised in the county more than doubled. This task was done well and showed the kind of service to agricultural production that the commercial supply and marketing sector should provide, and the warmhearted concern in providing service to the peasants to become prosperous through toil. It also showed the importance of taking the initiative in the marketing of commodities.

The marketing of goods is an extremely important link in our entire socioeconomic life chain. Only when marketing channels are open can production achieve its goal of satisfying the needs of people's daily lives. This can, in turn, give impetus to the prosperity and development of production. If markets for goods are clogged, not only can the people's consumption needs not be satisfied, but a curtailment and regression of production must inevitably occur. Consequently, while giving a high degree of serious attention to the development of production, we must give a high degree of serious attention to marketing work. We must coordinate and match the marketing link to production while at the same time bringing into play an organizational and regulatory role in the quality and variety of goods in plentiful supply and short supply.

As a result of the implementation of the party's various agricultural policies, the rural economy has become increasingly lively during the past 3 years, and products resulting from collective economic diversification and products from commune member household sideline occupations, in particular, have become increasingly abundant. In this process, rural business have made very great progress in the work of purchasing and selling agricultural and sideline products. This has played a very great role in advancing the development of agriculture and in making the peasants prosperous through labor. However, it should be realized that in comparison with development of agricultural production, the marketing link is still a relatively weak one. Among the three categories of agricultural and sideline products that collectives and commune member families produce, some are regularly hard to market. One of the main reasons is that some comrades in the rural business sector have a weak concept of production and do not devote sufficient efforts to organization and direction of production. They often do things in accordance with outmoded and narrow market requirements, and they are unable to take the initiative in conducting investigations far and wide to understand diverse consumption needs in far-flung places. Solution to this problem requires that comrades in all rural business departments and units establish a strong spirit of service to agricultural production and of service to the broad masses of peasants to become prosperous through labor, take full initiative in their work use, their brains, expand their horizons, stride along on both legs, understand all aspects, understand needs of markets everywhere, widen markets for agricultural and sideline products, and use every effort to overcome work difficulties and create convenient conditions for the sale of agricultural and sideline products for the peasants. In reality, despite the very great increase during the past few years in products of agricultural economic diversification and in commune member household sideline products, looked at in terms of the overall needs of the country as a whole, quantities have not been large and still remain small. Were our sales efforts to be like those of Hailun County in the selling of geese, which linked consumers and producers, we would not have to worry about inability to sell. Of course, in both economically diversified and commune member household sideline production, diligent efforts have to be made to organize and readjust to overcome blindness in production that is not in accordance with needs, but this is by no means the problem in most varieties of products. For most varieties of products the problem is still greater production and greater sales.

Certain agricultural and sideline products cannot be sold at once for various subjective reasons unrelated to sales promotion work. These include lack of convenient transportation, shortage of storage facilities, and insufficient processing capacity, etc. Problems in these regards can also be solved with increased effort. In fact, Heilongjiang Province has already taken some effective action to solve these problems, and now what is required is to better carry into effect the measures that have been decided upon. This relates not only to the development of agriculture but to development of the entire national economy as well. It is the common responsibility of all, and all levels of leaders and all sectors of the national economy should genuinely shoulder this responsibility.

Development of rural commodity production is only just beginning. With the bringing into play of the full power of party policies, greater future development will inevitably be greater. We should fully realize this trend and take action in advance to strengthen the marketing link for agricultural and sideline products in every way so that rural business work will meet the new circumstances in development of the rural economy.

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RUSH SOYBEAN PLANTING COMPLETED IN ONE STATE FARM AREA

Harbin HEILONGJIANG RIBAO in Chinese 23 Jun 82 p 1

[Article: "Entire Management Bureau Rush Plants 2.5 Million Mu of Soybeans. Wins Victory in Support to Jiansanjiang in Fighting Disaster by Rush Planting"]

[Text] News of victory has been sent on the battle at Jiansanjiang organized by the Provincial Farm Administration to fight disaster through rush planting. Between 1 and 20 June, the entire management bureau rush planted a total of 2.54 million mu of early ripening varieties of soybeans. This amounts to 89.5 percent of the total area sown to soybeans under the management bureau's jurisdiction, and the planting of 750,000 mu more than the planned quota before the battle was joined. The entire state farm and land reclamation area sowed 24.64 million mu of grain and pulse crops for overfulfillment of plan.

Because of serious waterlogging of fields on the 12 farms under the jurisdiction of the Jiansanjiang Farm Management Bureau, sowing could not be done. At the end of May the Provincial Farm Administration decided to mobilize people and horses from everywhere in the state farm and land reclamation area to do battle, which resulted in a reversal of the war situation. For more than 20 days, the commanders locked in battle in the five management bureaus of Baoquanling, Beian, Jiusan, Nenjiang, and Suihua fought with one heart and one mind, closely coordinated, and launched attacks night and day, despite fairly arduous working and living conditions, to complete their mission and win victory. In the course of the battle, an overwhelming majority of motor vehicle units worked in shifts for more than 10 hours daily, and some motor vehicle units put in as many as 23 hours each day. Government organizations, materials, and health departments at all levels operated round the clock without let up, waging war night and day. The Haerbin and Qiqihaer railway bureaus and the Provincial Shipping Bureau as well as Hejiang Prefecture and Tongjiang, Sunke, Jiayin, and Fuyuan counties also energetically supported movement of machinery and seeds, thereby assuring smooth progress in the battle throughout the state farm and land reclamation area. Today the broad masses of cadres and masses in the Jiansanjiang Farm management Bureau's area of jurisdiction are determined to continue unremitting efforts to consolidate the fruits of this victory, to conquer weed growth, and assure sturdy seedlings to win a relatively good harvest this year.

On 21 June, the Provincial Farm Administration held an awards ceremony to celebrate victory at Honghe Farm at which commendations and rewards were handed out to advanced motor vehicle units and persons who had come to notice during the battle. On the following day, the generals who commanded the battle in the five management bureaus set out on journeys and returned with honors.

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PROVINCIAL NOTICE ISSUED ON AUTUMN HARVEST

Xian SHAANXI RIBAO in Chinese 6 Jul 82 p 1

[Article: "Provincial CCP Committee and Provincial Government Yesterday Issued an Urgent Notice to All Jurisdictions To Achieve an All-Around Bumper Autumn Harvest"]

[Text] Yesterday, the Shaanxi Provincial CCP Committee and the Shaanxi Provincial People's Government issued an "Urgent Notice on Achieving an All-Around Bumper Autumn Harvest" to all prefecture municipal, and county CCP committees, all prefecture government administrative units, all municipal and county governments, the Provincial National People's Congress Standing Committee party organization, the Provincial Military Region CCP Committee, the Provincial Court, the Provincial Procuratorate party organization, all departments and commissions of the Provincial CCP Committee, all commissions, offices, departments, and bureaus of the provincial government, and provincial people's organizations at all levels. The complete text is as follows (not otherwise published):

This summer the agricultural production situation in Shaanxi Province is very good. The further stabilization and perfecion of production responsibility systems, the arousal of the two enthusiasms, plus fairly timely rains brought a bumper summer harvest of grain and oil and promoted development of economic diversification and industrial sideline production. In most prefectures the summer harvest has been virtually copmpleted by now, so CCP committees and the government at all levels must promptly shift the focus of rural work to autumn production, rapidly start an upsurge to win achieve all-around bumper autumn harvest, and aim for all-around overfulfillment of this year's agricultural production plans. It is in this connection that the following urgent notice has been prepared.

1. Persevere in a program of "positively no relaxation in grain production while actively launching economic diversification." Cadres and the masses must be indoctrinated in firmly establishing an attitude of achieving a bumper autumn harvest of grain and cotton, and an all-round bumper harvest. They should devote strict attention to autumn grain production. In Shaanxi Province, summer grain accounts for only somewhat more than 40 percent of the total grain production, while autumn grain accounts for almost 60 percent. After a bumper summer grain harvest, it is still necessary to

achieve a bumper autumn grain harvest; efforts cannot be relaxed for the major harvest and the greater figure cannot be ignored. In addition to taking a firm grip on grain production, it is also necessary to launch active economic diversification. This is particularly significant for achieving an all-round bumper harvest in agriculture and for increased collective and commune member family earnings. Lopsided notions about concentrating on the summer harvest and slighting the autumn harvest and about single-crop farming must be overcome. All jurisdictions have to adapt general methods to local situations, make the most of their advantages in the farming industry, the breeding industry, and in the agricultural byproducts processing industries, collectives and individuals rising together, increasing earnings by every available means, and using an increase in the ration economic diversification in agriculture for further equitable readjustment of the economic structure of agriculture. It is necessary to firmly establish an attitude of resistance to disasters to achieve bumper harvests and, in view of the possibility that unfavorable conditions such as widespread or severe disasters may occur this year, to fully prepare against all kinds of natural disasters.

A mass campaign to achieve a bumper autumn harvest should be widely launched. The broad masses of rural cadres and commune members should be mobilized to seize favorable opportunities to wage the battle during July, August, and September to achieve an all-time high in total autumn grain output. Wetlands and plains are the major bases ofr assuring a bumper harvest despite drought or waterlogging. They must be painstakingly tended to achieve high yields, efforts being made to harvest an additional 50 jin per my of grain. For drylands, several lines of defense must be established. Where autumn crops could not be planted because of drought, a change should be made to broom corn millet, pulse buckwheat and s-ch crops that have a short growing period. For economic diversification, it is necessary both to tend well the economic crops such as cotton and special forest products, and to energetically raise hogs, cattle, sheep and goats, chickens, rabbits and such livestock, as well as poultry, and to launch other household sideline occupations so that people's earnings will increase by an average of 10 to 20 yuan.

2. We must establish a base of resistance to disasters in order to achieve a bumper harvest. Summer and autumn weather is very changeable. Sometimes there may be drought and at other times waterlogging, both of which pose grave threats to autumn production. All jurisdictions must increase vigilance, fighting drought when it occurs and guarding against waterlogging when it occurs. During the past month or more, the drought situation has been serious in most prefectures. Some places have been unable to carry out autumn planting; in some places sprouting of plants has been difficult; and in some places growth of early autumn seedlings and late autumn seedlings that have just begun to sprout has been checked and some seedlings have died. In places in which the drought is currently serious, every effort should be made to launch work to combat the drought, fighting the drought to sow seeds and to protect the autumn harvest. All kinds of water conservancy facilities should be put to use; management of use of water from reservoirs, ponds, and irrigation ditches strengthened; priorities in water use maintained;

conflicts over water use quickly resolved; solidarity in the use of water, conservation of water, equitable use of water, and scientific irrigation encouraged; and general methods adapted to local situations for small-scale hand watering. In short, every available means should be used to expand the irrigated area. No matter what the form of production responsibility system practiced, all communes and brigades should strengthen centralized management of the use of water. Those who disobey water regulations or damage water conservancy facilities are to be seriously dealt with. Dryland plains and slopes lacking water conservancy facilities should adopt various effective measures to fight drought and preserve soil moisture in order to promote healthy and strong crop growth. At the same time, all jurisdictions should conscientiously put into effect the spirit of the provincial meeting on flood prevention, accelerating the replacement of projects destroyed by water and looking after ailing or dangerous reservoirs and dammed ponds to assure safe passage through the flood season.

3. We must carry out scientific farming of fields and do a good job of caring for autumn crops and special forest products. Tailored care and tailored guidance must be given on the basis of the different circumstances and different crops in wetland, dryland, mountain, and river areas in an effort to achieve all-round balanced increases in output. Where seedlings are missing or the soil has cracked around plants for the late autumn crop, replanting should be done to get full stands. The density of seedlings left standing may be appropriately increased to achieve an equitable plant density. This is the period of vigorous growth, budding, and blossoming for cotton, so individual plant care should be strengthened to assure balanced development of both individual plants and plant colonies. Cultivation, prevention and control of diseases and insect pests, sensible fertilization and irrigation, and timely pruning should be carried out for early, increased and large boll formation. The scientific care of other economic crops and special forest products should also be intensified to assure increased output and earnings. All jurisdictions should devote attention to a group of experimental fields and large-area, high-yield fields in a planned way, combine traditional mass experience and modern scientific techniques, make the most of the role of all levels of agricultural science and technology organizations and of the broad masses of scientific and technical personnel to increase per-mu yields, to set up model fields, and to give incentive to open field production. They should actively promote responsibility systems whereby techniques are linked to output, making sure that quotas are reasonable, measures to be taken are specific, and rewards and penalties are honored.

4. Leadership of autumn production must be genuinely strengthened. All levels of CCP committees and government should diligently put into effect the views of the Provincial CCP Committee on the arrangement of work during the last half of the year, making autumn production their central concern, and making all-round arrangement for all work to be done. All levels in all jurisdictions may, in accordance with concrete circumstances, institute guidance for work in individual areas, on individual tracts, and with individual divisions of labor. Principal leadership cadres at all levels should go down to the production frontlines to understand the circumstances

and solve new problems. They should take in hand the implementation of various agricultural policies, further stabilize and perfect various forms of production responsibility system, arouse the two enthusiasms, emphasize attention to good centralization, with contracting of actual tasks in the system of "double contracting" [the system of fixing output quotas based on households, and the system of peasant households assuming full responsibility for task completion], devote great efforts to the stabilization and perfection of systems whereby production is linked to the workforce and where there is management of fixed quotas, and conscientiously solve existing problems. Major efforts should be devoted to research on scientific agricultural techniques and their promotion, the emphasis being gradually shifted in this direction to learn and apply scientific techniques to advance development of production. There should be widespread launching of competitions for bumper output, making the most of the leading role of skilled production hands and labor models; conscientious revival and reorganization of grass-roots farm science stations and teams; intensification of technical training; promotion of the fruits of scientific research; and improvement in levels of scientific farming. All trades and industries should conscientiously and resolutely use every available means to support agricultural production, contributing their strength to increased output and increased earnings from the autumn harvest. Agricultural departments should acquaint themselves fully with realities and provide practical guidance. Finance and trade departments should vigorously work to do a good job of transporting and supplying materials used in agriculture and industrial goods for the countryside, and of purchasing agricultural byproducts. They should make farm loans available promptly in active support of collective and individual efforts to carry on production. Industrial departments should strive to produce the chemical fertilizer, pesticides, and farm implements that agriculture so urgently needs, and other industrial goods in severely short supply in rural villages. Communication and transportation departments should make priority arrangements for hauling of goods to support agriculture. Electric power departments should equitably arrange the use of electricity in agriculture to assure fulfillment of the urgent needs of production.

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BRIEFS

WIDESPREAD RAINFALL--It rained continuously in Shaanxi Province from 7 July until the early morning of 9 July, the largest amount of rain falling in Yulin and Hanzhong Prefectures. Except for Dingbian and Jingbain Counties, all of Yulin Prefecture's 12 counties received more than 20 millimeters of rain. In Hengshan, Jiaxian, Mizhi, Wubao, and Suide Counties, rainfall averaged 40 to 70 millimeters. In Shenmu and Zizhou Counties, rainfall was 97 and 112 millimeters respectively. In some counties of Hanzhong Prefecture and in Hingqiang and Liuba Counties, rainfall was fairly great as well, between 30 to 40 millimeters falling. In Yang County, 77 millimeters fell. In Yan'an Prefecture and in Pucheng and Heyang Counties in Weinan Prefecture, in Bin County in Xianyang Prefecture, in Feng County in Baoji Prefecture, and in Shiquan and Hanyin Counties in Ankang Prefecture, rainfall ranged from 10 to 20 millimeters. However, in most central Shaanxi prefectures and in Shangluo and Ankang prefectures, the rainfall was relatively light, amounting to less than 5 millimeters. The distribution of this rainfall throughout the province was very uneven, but in counties where the amount of rainfall was fairly large, it was extremely helpful in combating drought to protect the autumn harvest. [Text] [Xian SHAANXI RIBAO in Chinese 10 Jul 82 p 1] 9432

RAPESEED PROCUREMENT OVERFULFILLMENT--As of 6 July, Shaanxi Province had overfullfilled its rapeseed procurement quota by 80 million jin and half a month ahead of schedule. The province's rapeseed production bases of Hanzhong Prefecture and Ankang Prefecture each overfulfilled their quotas by 40 percent. Throughout the province a group of peasant households that have sold more than 1,000 jin of rapeseed to the state have appeared. The places that have yet to fulfill quotas are presently giving strict attention to sales to the state, and in the places that have fulfilled quotas masses are continuing to sell surplus oil. [Text] [Xian SHAANXI RIBAO in Chinese 10 Jul 82 p 1] 9432

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ANNUAL HOG SALES PROBLEMS AIRED

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 1

[Text] Recently the Provincial Commerce Department, Finance Department, and Price Bureau jointly issued a notice requiring commercial departments at all levels dealing in foodstuffs to use expansion of pork sales as a major measure for solving the difficulties of the masses in selling hogs.

Measures for expanding pork sales are as follows: Separate sales of fat and lean pork (this measure to be instituted mainly in cities). In counties overstocked with hogs, production teams should be encouraged to slaughter hogs themselves, dividing them for consumption, or the food stations may do the slaughtering and marketing for them. Transfers from surplus to shortage area. Commercial departments dealing in foodstuffs in places lacking hogs may go to counties having a good supply of hogs to buy hogs directly from households raising them, haul them back, butcher them, and sell the pork. In order to encourage such transfers and to solve problems with losses resulting from hauling and marketing, provincial finance and revenue departments have agreed to exempt live hog procurement and marketing links from payment of industrial and commercial taxes up until the end of August. In addition, the notice called upon all jurisdictions to conscientiously clear out their cold storage lockers, to stack produce in them in an orderly way, to empty them of cold storage items that should not be kept, and to clear space so as to be able to increase the procurement and holding in cold storage of more pork.

Both Ji'nan and Qingdao adopted the principle of premium price for premium quality, spearating the lean and the fat pork, and supplying separate cuts of lean pork, pork from which fat had been trimmed, and fat pork. In addition, they continued to supply the "centrally supplied pork" at the formerly retail listed price. Cut up prok prices rose from the prevailing 1.23 yuan per jin to 1.35 yuan per jin; fat pork fell from 1.03 yuan per jin to 0.93 yuan per jin; streaky pork fell from 0.82 yuan per jin to 0.75 yuan per jin; and pork from just behind the head fell from 0.68 yuan to 0.60 yuan. Various kinds of spareribs continued to be sold at prevailing prices. The retail price for pork trimmed of fat with bone in was sold at the same price as the centrally supplied pork with bone removed, i.e. at 1.13 yuan per jin. In this way the overall price for pork was maintained constant. Other cities can follow this method used in Jinan and Qingdao. In the case of counties that had severe drought during the previous period that have large stock of pork on hand, priority should go to making arrangements for state procurement allocations. Integrated meat plants located in counties should actively carry out processing to traim fat and reduce the price for fat to 0.60 yuan per jin, selling it locally. Such lean pork as cannot be sold locally should be sent to cities for sale. In addition to continuing to do a good job of supplying undifferentiated pork, county seats and rural villages are to follow existing regulations to process pork trimmed of fat with the bone in and fat meat, selling the fat and the lean separately. The price for pork trimmed of fat should be based on the prevailing price for undifferentiated pork with the bone in the price being lowered depending on the proportion of fat trimmed and the amount of fat remaining.

Letters to the Editor

[Text] Editor's Note: June and July are the busy seasons for the end of fattening of live hogs and their removal from inventory, and in some of the counties of the province, difficulties have again arisen in the sale of hogs. Recently this newspaper has received letters from various readers that reflect this problem, several of which have been excerpted from publication here. The main reasons for the occurrence of difficulties in selling hogs are overproduction, encumbered channels, and lack of vigorous sales promotion. Between January and May this year, Pork sales in the province declined 20 percent as compared with the same period last year. More than 600,000 fewer hogs were sold, showing that much leeway exists for improvement in the work of buying and selling live hogs.

Right now the weather is sweltering, and some people have urgent need to sell off their hogs. Departments dealing in foodstuffs ought to have a spirit of high responsibility toward production and toward the masses, and strive to expand sales of pork so that sales will stimulate purchases, thereby solving the difficulties of the masses in selling hogs while solving, at the same time, the difficulties some places have in getting meat to eat. Live hog production and procurement is an important matter with ramifications for agricultural production and the people's livelihood. Rural party and government leaders at all levels should be extremely attentive to this matter, regularly concern themselves with it, regularly study it, regularly look into it, and do all possible to solve this problem.

Comrade Editor:

Energetic efforts on the part of the state during the past several years to support commune member development of hog raising endeavors have thoroughly stirred the enthusiasm for hog raising of the broad masses of peasants, and the number raised has steadily increased. Statistics show that in Yishui County the number of live hogs in inventory has climbed from 270,000 head in 1978 to the present more than 350,000 head. Accompanying the rapid development of live hog production has been an ever increasing contradiction of production being greater than sales, and peasant cries of "difficult to sell hogs" have also reached new highs. Every summer, in particular, numerous peasants worry about their inability to sell their fattened hogs. We believe that the main reason for present peasant difficulties in selling hogs is that flow channels are encumbered with the result that frequently one place has much pork while it is impossible to buy pork at another place. Not long ago, Yishui County had too much pork and its cadres, satff and workers twice ate "patriotic pork," while in the Linyi County seat, just 200 li distant, pork was in short supply, and whenever it appeared in markets, it was bought up entirely. Why could transfers not be made from one place to another within the prefecture? We call upon relavant departments to diligently study and solve new problems that appear in live hog production, procurement, and marketing work, and to open, under guidance of the state plan, channels of flow. Food departments should change their style of doing business, set up more network outlets, expand sales, and use sales to spur procurement. We believe that if only all departments take every possible action peasant difficulties in selling hogs can be solved.

Xiang Yujie [4161 3768 2638]

Comrade Editor:

Right now is the busy season for removing fattened hogs from inventory. Here in our village of somewhat more than 300 households, more than 150 head of fattened hogs are waiting to be sold, but the food station says it cannot accept thatmany, and commune members cannot market them by themselves. Many commune members say: It is hard to feed hogs, and even harder to sell them. We hope that departments concerned will take effective action to solve this problem of peasant difficulties in selling hogs with all possible speed.

Houshan Production Brigade, Yuangezhuang Commune, Mouping County

Chu Chuanyang [0443 0278 3152]

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ADVANCES IN FOOD PROCESSING REPORTED

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 1

[Article: "Results Good From Continuous Production to Marketing by Jinan Food Industry. For Past Half Year City's Food Production Capacity Has Expanded, Output Has Increased, Varieties Have Become More Numerous, Quality Has Improved, and the Market Supply Situation Has Clearly Become Better"]

> [Text] Editor's Note: Clear results have begun to show in the continuous production to marketing by Jianan City's food industry.
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> Food industry production is closely related to the people's livelihood. A good job of food production and accelerated development of the food industry is a common desire and demand of the broad masses of people. Formerly, because of the separation of industry and commerce, production and marketing were disjointed, so the food industry's output was low and quality poor; development was slow and very much unable to meet requirements for constant improvement in the standard of living of the masses. In restructuring the management organization of its food industry, after instituting continuous management system from production to marketing, Jinan City pretty well solved some contradictions and shortcomings in food industry production. This provides some good methods that may be borrowed for development of the food industry.

During the past half year since the Jinan Municipal Food Production and Marketing Compa-y instituted a continuous production to marketing management method, output of foodstuffs has increased, varieties have become more numerous, quality has improved, and market supply has taken a clear turn for the better.

Since its founding in November last year, the Jinan Municipal Food Production and Marketing Company has focused on the backward production, technological weakness, the splintered leadership, and the decentralized management of the food industry. It has spotlighted the two major areas of expansion of production capacity and improving product quality, taking the following several actions:

(1) It has taken the path of "tapping potential, converting, and amalgamating, the state owned and the collectively owned, and the urban and the rural all rising together. By tapping potential is meant the tapping of potential within enterprises through their reorganization and changes in production conditions, increasing colors, styles, and varieties, improving product quality, and reviving traditional name brand products. By conversion is meant the selection of some enterprises that have not fulfilled their quotas for conversion, converting them, in conjunction with industrial reorganization, to food industries to open new production capacity. By amalgamation is meant use of suburban commune and production brigade, and district and street collective enterprise plants, equipment, and workforces to organize diverse forms of integrated enterprises to expand production of popular foodstuffs and foodstuffs that fill gaps. This amalgamation has followed the principles of keeping the enterprises small, keeping them collective, and having a retail outlet at the front of each plant, with production and marketing companies using the contract system for planned, professional, and responsible management. For the past half year, they have exercised responsible management of the production and marketing of pastries, candies, cold drinks, snacks, and fruits. They have carried out a tapping of potential and improvement of six enterprises, have provided for the conversion of five enterprises to the production of foodstuffs, and have operated 33 integrated enterprises, causing production capacity to expand almost fivefold, and styles, colors and varieties to increase by more than 40.

(2) They have devoted efforts to improvement of quality and to the making of name brand foods. For the past half year, they have energetically revived and developed traditional products, and have developed and produced new varieties with a local flavor to satisfy consumer needs in many regards. People have been sent out on 18 individual trips to invite 11 technicians from Shanghai and elsewhere to solve a number of technical difficulties. They have run technical training classes and various kinds of specialized training classes to train more than 250 technical mainstay cadres of various kinds. In addition, they have hired old retired workers and engineering technicians with superb skills from throughout the city to organize technical advisory teams. They have had them act as staff officers in the training of apprentices, and in the development of noted fine quality foodstuffs. Within only 3 months, they have come up with more than 30 suggestions for improvements, they have helped revive 22 varieties of traditional and brand name products, and have introduced and innovated 28 varieties of products, with the result that food production has become diversified, products have a distinctive flavor, and packaging has taken on a gift wrap appearance.

(3) They have based themselves on the longterm, have made the most of strengths, and have established bases for the consistent supply of raw materials. Suburban Jinan communes and production brigades have abundant agricultural byproduct resources, and a vast scope exists for development of foodstuff industries. After establishment of the production and marketing company, it followed the principle of taking as a key link the doing of a good job in using existing resources while at the same time giving attention to the fostering of new resources; of taking development of local special products as the key, while giving attention to the opening of rar materials

bases for popular foodstuffs; of taking development of artificial breeding as the key, while giving attention to development of wild resources for use; of taking organization of local processing as the key, while giving attention to doing a good job of having raw materials go directly into the city, with the planned signing of contracts with counties, communes, and brigades, the opening of joint city and countryside enterprises to give impetus to rural economic diversification and development of processing industries for the very rapid establishment of a group of raw materials bases to create good conditions for the steady development of the good industry.

The Jinan Food Processing and Marketing Company is both an executive management organization and an economic organization. It both manages production and manages raw materials supply and product marketing. Thus it has broken through the rigamarole that has fettered some productivity and has enlivened production and marketing. This year, among the 13 enterprises that are directly subordinate to the company, and among the more than 30 joint enterprises that the company manages, a new atmosphere has occured in which they have vied to understand market needs, to improve their service attitude, to raise operating standards, to improve product quality, and to increase colors, styles and varieties. At the food fair held in April and the children's food fair held in June, all sorts of pastries, candies, drinks, snacks, and fruit manufactures bloomed like a hundred blossoms to dazzle the eyes. The masses said happily, "Jinan's food markets are beginning to look like something to taste like something."

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AGRONOMIST DISCUSSES PROBLEMS OF COTTON PRODUCTION

Jinan DAZHONG RIBAO in Chinese 6 Jul 82 p 2

[Article: "Strategic Problems in Shandong's Development of Cotton Production Explored--a Visit with Cao Boqiang [2580 0130 1730], Ranking Agronomist, Shandong Provincial Academy of Agricultural Sciences"]

[Text] During the period when the Huang-Huai-Hai Plains Agricultural Development Academic Symposium was in session in Jinan, the correspondent paid a call on the conference's deputy secretary, Comrade Cao Boqiang, and asked him to talk about strategic problems in Shandong Province's development of cotton production. Cao Boqiang is the ranking agronomist at the Shandong Provincial Academy of Agricultural Sciences and secretary of the Shangdong Agriculture Society, and is an expert who has been engaged for many years in the study of cotton production.

In discussing the province's prospects for development of cotton production, Cao Boqiang said happily that development of cotton is an economic strength for Shandong Province. During the past 3 years, cotton production in the province has developed by leaps and bounds, demonstrating the tremendous role of this strength, and the potential is still very great. Further development of this strength is not only an urgent need for the broad masses of cotton growing peasants, but it is also an inevitable trend in the economic development of the province. Exploration of strategic problems in achieving further development of cotton production must be based on the principle of coordinated scientific and technical, economic, and social development, with the implementation primarily of an intensive development program. In this connection, he spoke first of the problem of further perfection of the distribution of cotton fields. Comrade Cao Boqiang said that as a result of several years of readjustment, the province's cotton field area had expanded from 9.4 million my in 1978 to more than 14 million mu in 1981, and further expansion of the area would occur this year. Right now there is a fair amount of discussion about how to further improve and readjust cotton field patterns. He expressed the view that the ratio between grain and cotton crop areas is closely related to the production level for grain crops, and that the basic point of departure for handling the relationship between these two is to adhere to cotton growing areas growing their own grain to achieve self-sufficiency or substantial self-sufficiency. Under current production levels, the province's economic crop area should amount to about 30 percent of the total cultivated land. In Shandong Province, 80 percent of all cotton fields are concentrated in the four prefectures of Dezhou, Liaocheng, Huimin, and Heze. In these prefectures, there is about 2 mu of land per capita, 20 percent more than the average number of people engaged in agriculture per mu for the province as a whole. However, per-mu grain yields are lower than provincial levels, and the potential for increased yields is fairly high. Considered in terms of developmental strategy, the ratio of cotton fields could be correspondingly somewhat larger. Recently a 2-year survey of production and comparative analysis of 37 cotton-growing counties was conducted, and the results showed that by proceeding frcm adherence to the principle of cotton growing area self-sufficiency, or substantial self-sufficiency, in grain production, the cotton field area in key cotton-producing areas could be about 40 percent of cultivated land, and that in key cotton-producing counties, it should not exceed 50 percent. Considered in terms of cotton field distribution per se, there is still the problem of a proper concentration. Widely scattered cotton fields do not make for the strengthening of leadership and do not favor the spread of advanced techniques. Arranging cotton fields on the basis of soil and climatic area that lend themselves best to the growing of cotton is the most fundamental foundation for improving cotton field distribution. With the rapid expansion of cotton fields in the province, the arrangement of some cotton fields is not entirely suitable. This problem is very deserving of attention.

Comrade Cao Boqiang said that cotton field distribution must be achieved in conjunction with the breeding of fine varieties, with their propagation and spread, and with improvements in the farming system. The growing season for the cotton-growing areas in the southwestern part of the province is about 15 to 20 days longer than in northern Shandong; consequently, both the southwestern and southern Shandong cotton-growing areas might suitably develop some intermediate ripening varieties, and they might properly develop some cotton-growing areas where wheat and cotton are grown in a two-crop system in order to ameliorate the conflict between grain and cotton. Northern Shandong cotton-growing areas are suitable for the breeding and promotion of some early maturing varieties tolerant of salinity and alkalinity.

Next, Cao Boqiang spoke about the problem of increasing cotton field fertility. He said that improvement in cotton field fertility had already begun to be recognized by people, and that fertility of Shandong Province's cotton fields had already begun to improve. However, in terms of cotton production developmental strategy and the need for sustained, consistent and high yields, further effective actions had to be taken for continued vigorous nurturing of cotton field fertility. For large areas, improvement in cotton field fertility is a long-term strategic task; it is not something whereby results can be seen very quickly. Action has to be taken steadily and formed into a system for consistent improvement. Nurturing the fertility of cotton fields must follow the principle of "using the land and nurturing the land and using cotton to nurture cotton," organic fertilizer being most important and chemical fertilizer being ancillary for gradually changing the present tendency of relying primarily on chemical fertilizer to increase output, to the neglect of organic fertilizer, as well as the tendency to emphasize increased yields during the current season to the neglect of the long-term and of methods for improving economic benefits in an allaround way. Cao Boqiang said that people do not yet fully appreciate the full use of cottonseed cake for development of the livestock industry or the accumulation of stable manure to improve soil fertility. At the present time, most cottonseed cake is used for direct fertilization of the fields with only a miniscule amount being used for the feeding of livestock, and this is a very great waste. Experiments have shown that when cottonseed cake is applied directly to the ground, crop use of its nutrients is very low: its nitrogen utilization rate is only 30 percent and the remaining nitrate nutrients are wasted. Were it to be used first for the feeding of livestock and the resulting manure applied to the ground, not only would an increase in protein feed for the livestock result in a saving in grain and a moderation of the conflict between grain and cotton in cotton growing areas, but the livestock industry could also be vigorously developed and the quality of organic fertilizer improved. At the present time, detoxification of cottonseed cake has been substantially solved, and energetic efforts should be made to use it as livestock feed. If this is done, it can be predicted that the province's present cotton bases will simultaneously become livestock bases, with the promotion of tremendous increases in both grain and cotton output following.

The third problem about which Cao Boqiang spoke was the strengthening of scientific research to improve economic benefits. He said that following the Third Plenary Session of the 11th Party Central Committee, the state had instituted policies to encourage development of cotton production. Economic benefits for cotton-growing peasants greatly increased, and this played an important role in the development of cotton production in Shandong Province. However, it must be realized that the current increase in benefits to cotton-growing peasants is attributable, to a very great degree, to price policies, while socioeconomic benefits from the cotton-growing industry per se have yet to be fully realized. He pointed out that in order to increase socioeconomic benefits from the cotton industry, from both a current and a long-range standpoint it is necessary further to strengthen scientific research, to increase cotton growing standards, to lower production costs, and to launch comprehensive utilization of cotton byproducts. Our former research on cotton techniques lay particular emphasis on individual techniques for increasing yields, while increases in cotton output were not commensurate with the value of the material and labor resources invested in cotton fields. This caused a rise in costs and a decline in net earnings. A solution to this problem currently lies in taking a firm hold on the popularization of existing cotton growing techniques. In the future it will be necessary further to intensify scientific research and to improve scientific cotton growing standards. The popularization of scientific techniques requires, first of all, adapting effective cotton-growing techniques and analyzing different levels of production to compile complete technical growing data that are then disseminated in various ways to teh braod masses of cotton-growing peasants for application to production, so as to cut down on blindness in the use of technical measures for a saving in manpower and material resources, a lowering of costs, and an increase in per-mu yields. Long-range thinking requires the enhancement of basic research as well as research on comprehensive techniques for increasing yields. In view of Shandong Province's lack of water resources, insufficient energy, and high cotton field ratio, efforst should be centered on the key matters of increasing the low energy utilization rate, taking firmly in hand the nurturing of soil fertility, scientific use of fertilizer and water, all-around prevention and control of diseases and insect pests, and such problems through organization for a concerted attack. A series of optimum farming techniques applicable to different cotton-growing areas must be gradually explored on the basis of the distribution of different varieties.

In talking about the processing and comprehensive use of Shandong Province's cotton products, Cao Boqiang said definite capabilities exist in the form of equipment and techniques, and crop patterns are also fairly equitable; however, they are very ill suited to the state of development of cotton production. The present situation is one in which the state is unable to recover a substantially large portion of cotton byproducts; large quantities are totally wasted; for those items that are used technology is backward, output is small, and costs are high; many ways of using them have not been exploited, such as the use of cottonseed cake in medicines, in the production of mixed livestock fffes, as a high protein food, and the use of cottonseed oil in the food industry. Research has just begun on some of these applications, but no one is researching most of them. This represents a very great potential, and tapping of this potential has become an inevitability in cotton production. In this regard, it is necessary to take the path of joint endeavors by state-owned enterprises, communes and brigades, and cotton-growing peasants, to expand processing capacity and to improve processing quality in order to recover a comparatively large amount of cotton byproducts. In addition, it is necessary to launch scientific research on areas not being exploited on the basis of realities in Shandong Province for gradual expansion of the scope of comprehensive utilization. Regarding this problem, Cao Boqiang expressed the view that there are currently two tasks meriting special attention. The first is acceleration, strengthening, and improvement of the scientific corps for improvement of production and comprehensive utilization of cotton. At present, Shandong Province has few people engaged in cotton research and the promotion of techniques, and the aging of personnel and outdatedness of their knowledge increases daily. Many research projects cannot be launched. Meanwhile scientific and technical personnel engaged in the processing and comprehensive use of cotton amount to only 0.0025 percent of the total number of employees in this system. Consequently, intensified development of intellectual resources and the adoption of various ways to strengthen and improve this corps is extremely important. The second is perfection of the scientific research system for cotton production and processing for use, departing from the wasteful duplication of scientific research projects and no one working on some tasks. This requires a combination of conscientious scientific and technical, economic, and social planning. Finally, Comrade Cao Boqiang suggested that provincial departments concerned coordinate the scientific research forces in all quarters, formulate "triple combination" plans, take firm hold of key topics, and organize a coordinated attack so that the limited manpower, material, and financial resources may play a comparatively large role and promote the emergence in Shandong cotton production of an inspiring new situation.

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WAYS TO DEVELOP WESTERN SICHUAN PLAIN AGRICULTURE EXAMINED

Chengdu SICHUAN RIBAO in Chinese 1 Jul 82 p 2

[Article by Sichuan Provincial Science Commission study team: "Exploration of Ways in Which the Western Sichuan Plain Can Develop Agriculture"]

[Text] The Western Sichuan Plain has fertile soil, temperate climate, copious rainfall, developed irrigation, concentrated population, and sufficient workforce; the conditions for development of agricultural production are comparatively superior. Cultivated land in the 30 counties (or districts) of the plain account for 15 percent of the province's cultivated land area, and the agricultural population accounts for 14.4 percent of the province's agricultural population. Each person farms an average of 1.2 mu, on which largely paddy rice, wheat and rice are produced. This is the main production base in the province for commodity grain, edible oil, and hogs.

Since Liberation, great development has occurred in agricultural production on the Western Sichuan Plain. Nevertheless, development has not been rapid, and some major indicators are still lower than the national level. The main factor affecting the speed of agricultural development of the Western Sichuan Plain, apart from past policy mistakes, has been neglect of the role of scientific techniques. Irrational agricultural patterns and one-sidedness in emphasizing certain grains have blocked full use of natural and social resources and have restricted the bringing into play of the multifunctional effects of the farmland ecological system.

Stress on Advantages of Intermediate Rice Production and Appropriate Expansion of Economic Crops

The Western Sichuan Plain is a famous rice-growing region in China in which paddy rice output in normal years accounts for about 80 percent of the region's grain production for the year as a whole. However, since the 1960's, as a result of excessive expansion of wheat and barley production, followed by the blind development of double rice crops for a period of time, the advantages obtainable from intermediate rice were damaged. In fact, natural conditions on the Western Sichuan Plain are extremely favorable for intermediate rice production. Representative sampling carried out in Wenjing Prefecture shows that for each worker put into paddy rice production, grain output is 23.8 jin, which is 54.5 percent higher than for wheat. For each yuan worth of chemical fertilizer invested, 40.8 jin of paddy is produced, benefits from the investment in fertilizer being 126.7 percent higher than for wheat, and the cost per jin being lower. The net increase in value from paddy rice is 61.60 yuan per mu, 26 yuan and 40.40 yuan higher than for wheat and corn respectively. The economic benefits from intermediate rice are best and the potential for increased yields is great. In 1980, eight counties on the Western Sichuan Plain farmed a total of 2.85 million mu of paddy rice, which accounted for 28.2 percent of the rice-growing area on the Western Sichuan Plain, yields averaging 827 jin per mu. If Western Sichuan Plain paddy rice yields had reached this level or just slightly higher during the past several years, the annual incremental rate of increase for paddy rice would have been 3 percent.

For a long time the Western Sichuan Plain has been in the habit of growing economic crops during its winter crop production season. Economic crops such as rape, tobacco, medicinal herbs, and vegetables account for more than one-third the winter crop area. Crop patterns are rational for "raking in grain in the fall and raking in money in the winter." After the 1960's when only grain production was emphasized, the economic crop area was contracted greatly, to the detriment of increases in commune member earnings. Naturally expansion of economic crops was curtailed by grain output, market capacity, scientific techniques, production conditions, and such factors. State plan guidance had to be taken as the key, and blind action avoided. Nevertheless it was possible gradually to curtail the wheat-growing area somewhat by increasing per-mu yields so as to expand the growing of some economic crops. If it had been possible to further increase per-mu economic crop yields, the economic benefits would have been very outstanding.

Development of Agricultural and Sideline Product Processing and Practice of ComprehensiveUse

While striving to increase agricultural output, it is necessary to institute all-round processing and use of agricultural and sideline products to improve overall economic benefits from agriculture. During the past several years the Western Sichuan Plain has begun to give attention to this problem and has achieved remarkable results. In 1980 the output value from the processing of agricultural products by 30 counties (or districts) came to more than 1.6 billion yuan, or 58 percent of total output value from agriculture. Nevertheless, the all-round processing and utilization rate for agricultural and sideline products on the Western Sichuan Plain is currently relatively low; the colors, styles, and varieties are few, and continued improvement of quality is required. This means that expansion of the scope of processing is necessary, on the one hand, while development of precision work is required on the other, with steady improvement in processing techniques, increase in product competitiveness, and ex pansion of markets for products. Not only is it entirely possible to increase the processing value, but the potential is also very great. For example, a ton of wheat flour costs 340 yuan. When made into noodles, vermicelli, and bread, the output value is increased by 17.6 percent, 35.3 percent, and 3.7 times respectively. Each year following the crushing of oil from rapeseed, more than 300 million jin of rapeseed cake remains. According to measurements made in livestock feeding experiments, the energy derived from the digestion of 1 kilogram of rapeseed is equivalent to that of 0.83 kilograms of corn. The total energy derived from the digestion of rapeseed cake from 30 counties is equivalent to that of 260 million jin of corn, or about one-fourth the corn output of the Western Sichuan Plain. Today, however, only 2 percent is used. Most of its is applied directly to fields, which is an extreme waste. Livestock products from the Western Sichuan Plain are abundant, but the quantity processed is very small and the varieties uninteresting. In the future, it will be necessary to increase the quantities processed and to enlarge the number of varieties. Shifang pressed duck is sold locally at a profit of only 2 yuan; exported it brings 5 yuan. The feathers from 20 to 25 ducks can be processed into a down jacket of high value. One down sleeveless jacket takes 2 liang of down costing 4 to 5 yuan and can be sold abroad for 16 to 19 yuan. The Western Sichuan Plain has many kinds of vegetables and output is high. By vigorously developing vegetable processing, economic benefits can be increased and the conflict between supply and demand during the slack season in vegetables can be moderated. Sizhai and Wanchun Communes in Wenjiang County experimentally produced somewhat more than 100 tons of salty garlic and salty cauliflower for export, thereby increasing their value by more than 30 percent and more than double respectively. Bamboo is very abundant on the Western Sichuan Plain and development of the plaiting of bamboo holds great prospects. In 1980, output value from the plaiting of bamboo in Chongqing County amounted to 5.46 million yuan for a 60-percent profit, each household in the county averaging an increased income of somewhat more than 27 yuan. In 1980, seven [character illegible] in the 13th Production Brigade of Daoming Commune in Chongqing County plaited bamboo with an output value of more than 120,000 yuan, for a fivefold increase in value over the bamboo raw material.

Enthusiastic Encouragement and Support to Peasants for Development of Household Sideline Occupations

Peasant households on the Western Sichuan Plain average in general more than 100 yuan in income from household sideline occupations, of which about 65 percent comes from the raising of hogs, earnings from the farming of private plots and woodland plots amounting to about 20 percent, handicraft plaiting amounting to about 10 percent, and odd-job income amounting to 5 percent. Statistics from 15 counties show that during 1980 peasant purchases of consumer goods averaged 128 yuan per capita, more than 70 percent of which derived from household sideline occupation earnings. Vigorous development of an economy run by the peasants themselves is not only necessary, but its potential is considerable. Private plots in the 30 counties of the Western Sichuan Plain amount to 1.29 million mu, or 8.7 percent of the cultivated land. An additional 7.4 percent lies in raised paths through fields. The area farmed by peasants themselves averages 0.18 mu. Nevertheless, it is still not used to the full. Output value from land that peasants farm themselves amounts to only 20 percent of the output value from sideline occupations, so continued improvement in all-round economic benefits holds great potential that can be tapped. Additionally, the breeding of poultry and small livestock has vast prospects, and development of handicraft products is also worthwhile.

The development of peasant household sideline occupations requires centralized planning and strengthening of state plan guidance. Family sideline occupations may be principally in a single industry or economically diversified for all-round development. The departments concerned should promptly provide fine breeds of livestock and poultry, organize epidemic disease-prevention services, institute scientific management, and link production and marketing through the signing of agreements, relating them to state plans for healthy development.

In the Shortrun, Where Should Attention Be Directed for Development of Agricultural Sicence and Technology?

Practice has shown that development of agricultural science and technology is related to the large problem of improvement in the agricultural labor productivity rate and to the lowering of production costs, and is the key to peasants becoming prosperous with all possible speed. In order to meet Western Sichuan Plain development needs, in the short run it is necessary to devote attention to work in several quarters, focus on requirements for rice, wheat, oil, and other economic crops as well as the raising of livestock and poultry, emphasize the breeding of fine varieties and experimental research on techniques for growing and raising them, while at the same time studying techniques for processing and using agricultural and sideline products; increasing varieties, sizes, colors and designs; improving quality; and expanding markets.

There must be intensification of technical promotion work, with emphasis on the three "transfers." First, following introduction and experimentation, the fruits of scientific techniques from elsewhere must be transferred to the local area. Second, demonstrations and experiments must be used to transfer to production the fruits of research of local scientific research units. Third, there must be summarization and improvement to transfer the traditional techniques used by peasants rich in experience to the broad masses of peasants. An effective means of technical promotion is to institute technical promotion responsibility systems, encouraging compensation for services, and gradually developing in the direction of specialization and socialization.

Technical training should be intensified, with vigorous efforts exerted in the development of rural intellectual resources. Statistics from a survey conducted in Wenjiang Prefecture show that peasants in the prefecture possessing various kinds of technical skills numbered more than 160,000, or 3.5 percent of the rural population. When those in the rural villages of Chengdu, Jinyang, and Leshan are added in, there are an estimated 300,000 or more. Investigation and research during the past few years has shown that few of them are used. In the shortrun it is necessary to organize technical training, the emphasis going first to nurturing and improving a group of technical mainstay cadres and using them to stimulate the peasants to study and use scientific techniques to give impetus to the development of agricultural production.

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IMPROVEMENT OF BREEDS OF OXEN REPORTED

Chengdu SICHUAN RIBAO in Chinese 1 Jul 82 p 2

[Article: "Daxian Prefecture Obtains Heartening Results From Fine Breed Oxen; Last Year 23,000 Head of Fine Breed Oxen Were Bred, 10.5 Times the 1978 Number"]

[Text] Dixian Prefecture's work with improved breeds of oxen has won heartening success. Last year the prefecture raised 903,000 head of oxen, an increase of 41,000 over 1978. Fine breed oxen bred numbered 23,000, or 10.5 times the 1978 number, and accounted for 22 percent of the province's 105,000 head. Uncontrolled crossing and random breeding has been stopped, and the poor composition of cattle herds has been improved to a very large extent.

Dashan Prefecture, located in the southern foothills of the Ba Mountains, has more than 14 million mu of grassy mountains and slopes suitable for raising livestock. It has historically been a famed ox producing region. However, constrained by tradition and custom, plus the effects of "leftism," the people took a narrow view of raising oxen for use as draft animals, which seriously impeded development of commodity production.

When the spring freshets of the Third Plenary Session of the 11th Party Central Committee wafted into Bashan, the Daxian Prefecture CCP Committee and government administrative office leaders emphasized emancipation of the mentality and set to rights the position of the livestock industry, placing on their daily agendas the conversion of "grass" into "meat" and improvement of breeds. In 1977, before the province set up pilot projects for superior ox breeds, because Tongjiang County's local breeds of oxen were of inferior quality and did not sell well either in foreign trade or domestically, the County CCP Committee instructed livestock stations and the Foreign Trade Bureau to quickly give attention to improvement of breeds. Leading comrades in these two units went to Beijing where they bought and brought home with them slightly more than 300 doses of superior breed forzen semen. They bred 14 head, four of which became pregnant, all of the calves produced surviving. This was the first time that success had been achieved in improving the province's breed of oxen.

Subsequently, the national Ministry of Agriculture named seven commodity ox base counties in Dzxian Prefecture. The province selected five counties in Daxian Prefecture that had run breed improvement pilot projects. Over the years breed improvement tasks had increased and difficulties had increased with them. Some commune members did not believe that frozen semen could be used for breeding, and when those raising animals brought them to be bred, as soon as they saw it was to be artificial insemination, they quickly led them back home. Technical requirements for frozen semen breeding are very strict, but at that time technical capabilities were weak. Moreover, the frozen semen had to be brought from Chengdu, and the liquid notrogen had to be brought from the bull station of the import farm in Chongqing. Once the railways department mistakenly thought that the liquid notrogen container was dangerous goods of which transportation was prohibited, and an incident occurred in whih the shipper was detained. In the face of these difficulties, under the guidance of CCP Committee and government leaders, employees on the livestock frontline conscientiously and earnestly developed the work of improving ox breeds. Xuanhan County used written materials, photographs and drawings, and lives displays on a 17-commune circuit over a 4-month period, and it is estimated that these were seen by more than 80,000 persons. Pingchang County organized forces to compile more than 4,500 copies of materials, and used wired transmissions and propaganda to educate the masses. During the past several years, the prefecture has secured 985,000 yuan of local public finances and has taken 7 million jin of grain from reserves to launch a livestock raising industry. Since 1979 it has trained a total of 262 insemination personnel and has run technical training classes 33 times. Seven foreign breeds have been introduced to the prefecture, including Simmental, Charolais, Hereford, Angus, Limousin, Shorthorn, and Moleihui [1075 4959 3500]. Forzen semen has been used to breed more than 68,000 cows in order to produce more than 37,000 hybrids, which account for 32 percent of the province's total number of hybrid oxen. In 1980, Bazhong and Xuanhan entered the ranks of the country's 25 advanced counties for fine breeds, and in April last year, the Ministry of Agriculture convened a national livestock work conference in Bazhong County, which was yet another boost for Daxian Prefecture's fine breed oxen work. Since the lunar new year, workers on the frontline of the livestock industry in Daxian Prefecture have exerted greater efforts to carry out technical training early, to prepare materials early, and to begin breeding oxen early, giving further impetus to the work of improving breeds of oxen.

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NEED TO MAINTAIN STRUGGLE AGAINST DISASTERS STRESSED

Kunming YUNNAN RIBAO in Chinese 25 Jun 92 p 1

[Article by commentator: "A Look at the Province as a Whole in Light of Qujing Shows Need For No Slackening in the Attitude of Struggle Against Disasters"]

[Text] This spring Qujing Prefecture was stricken by one disaster after another, including the return of cold in the spring, hailstones, floods, and waterlogging, and some counties also endured long drought. As a result, the early spring harvest of crops sown in late autumn was reduced, and crops sown in spring for fall harvest were seriously affected. However, thanks to the clear-cut attitude of struggle against disasters on the part of all levels of CCP committees and government, the prompt and vigorous actions taken, the proper direction given, and the stability of mass thinking, production proceeded in an orderly way in the face of disasters, and fairly good results were gained. The early spring harvest was painstakingly gathered and threshed, losses being less than had been originally anticipated, and oil-bearing crops achieved substantially increased output. Although rice transplanting got underway late, it proceeded fairly quickly. By about 21 May, more than 1 million mu had been transplanted and rice producing counties had fulfilled between 80 and 90 percent of their transplanting tasks.

A look at the province as a whole in light of Qujing shows that we cannot slacken for a minute our attitude of struggle against disaster in order to achieve bumper harvests. This year's crop to be harvested in early spring started off very well in Qujing Prefecture and a bumper harvest was in sight. Then disaster suddenly struck. Some grassroots level cadres looked at the fields and cried bitterly, not knowing what to do. However, prefecture and county CCP committee leaders kept clear heads. They realized that reduced yields from the early spring harvest were bad, but by no means frightening. What was to be feared was a wavering of confidence in being able to resist disaster and go on to achieve a bumper harvest. They unified thinking from top to bottom, analyzed the disaster situation, sought favorable conditions in an unfavorable situation, and constructed a solid mental defense line in the face of disaster. This defense line was shown to be very important. With this defense line, we could be one with the masses and find various means of countering the disaster. Without this defense line, we would have been at a loss about what to do ro have been weak and powerless or even disheartened, and we would have lost the battle against natural disasters.

If victory was to be won against disaster, in addition to confidence there would have to be some reliable measures to provide assurance. Experience in other prefectures of the province, and the present practice in Qujing Prefecture both demonstrated that a healthy production responsibility system is a most effective measure for mobilizing the masses to join in the struggle against disaster. The masses in Huangnihe Commune in Fuyuan County gleaned 60,000 jin of wheat from fields that had been battered to the ground by hailstones. On the evening of the very day on which the hailstones fell, Banqiao Commune in Luliang County began soaking more seed grain, and cleared away the ice water on the following day. In Yilang County, the masses took rugs and bedsheets from their homes to protect the seedlings from frost and worked all night long. Let me ask: Could this have been done when everyone "ate out of a large common pot? The Qujing CCP Committee believe that the large numbers of cadres who went into the countryside this year to help perfect the production responsibility systems had a very great bearing on the ability to make big achievements in the current struggle against disaster, and this is a very sensible view.

Disasters inevitably create losses, and this was a fact that had to be faced. But simply shouting the slogan, "no reduction in outout in a year of major disasters" is of no help at all in making up for or reducing losses. The method Qujing Prefecture used was as follows. They obtained grain through the use of scientific techniques. When the small seedlings were frozen, they enlarged the area in which seedlings were grown under plastic sheeting to more than 5,300 mu. When the early spring harvest sustained losses, they hastened promotion of advanced techniques for the fall harvest. This year the directional planting of rice in rows showed a more than twofold increase over last year, and both the area of spread of fine rice varieties and hybrid corn doubled. The masses said that this year's disasters were a rarity and the quality of planting was also a rarity.

After the disasters, the difficulties of hardship households were more pronounced, and the job of helping the poor became more urgent. In addition to issuing relief supplies and loans at once to seriously stricken production teams (or households), Qujing Prefecture arranged for party members and cadres to assume sole responsibility, and together with production teams they went to help hardship households. They were not permitted to eat or drink in hardship households, and most problems of the households enjoying the five guarantees [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses by the people's commune], of the four dependents [families of martyrs, servicemen, and others], as well as those of hardship households were fairly quickly solved. This not only gave impetus to the struggle against disaster to produce, but also demonstrated the superiority of the socialist system.

Natural disasters usually strike without warning, and their consequences are hard to eliminate in a short period. Consequently, when taking action to resist disasters, one cannot be concerned only about the present, but one must take care of many things at the same time and make all-round arrangements. Now Qujing Prefecture has laid plans for expanding the planting of the "four fields" (alternately cultivated and fallow land, the two wastelands, orchards, and empty land in mulberry groves), the "single field" (seedling field), and the "two ridges" (ridges between fields and long ditches), as well as an increase in the late autumn crop area. This thinking has been well worked out and can provide food for thought for others.

A look at the province as a whole in light of Qujing shows that when early resistance measures are taken against disasters that have occurred, and early prevention measures are taken against disasters that have not yet occurred, prospects for success in achieving a bumper harvest for the year are hopeful.

9432
CSO: 4007/506

AUTHOR: CHEN Baixi [7115 4104 1585]

ORG: South China College of Agriculture

TITLE: "Report on the Rapid Control and Eradication of Enzootic Pneumonia in Swine"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 5, May 82 pp 8-11

ABSTRACT: For a long time, swine pneumonia [swine asthma] has been a serious threat to the development of the hog industry and there have been large economic losses. In 1964, the author proposed a simple method of diagnosis without the aid of drugs or x-ray but as it was found to be unsuitable for young piglets, etc. it was never adopted. The author again attempted to use x-ray to diagnose all the swine in the country for thorough treatment of the diagnosed cases with terramycin to control or even eradicate the disease within as short a period as 3-4 weeks. This technique was experimented in 1961, 1964, and 1976. The experimental procedure and result of the 3 experiments, in farms of a swine population of 63, 95, and 811 pigs respectively, are reported in separate chapters in the paper. The technique relies on x-ray alone for diagnosis without resorting to the tedious method of surgically removing unborn fetus or selecting piglets from healthy or naturally cured sows only in an attempt of gradually raising a herd free of this disease. The treatment consists of terramycin only, in various doses and modes of administration.

AUTHOR: CHEN Chuanqiang [7115 0278 1730]

ORG: Guangxi College of Agriculture

TITLE: "A Survey of 'Panting Disease' in Cattle"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] No 5, May 82 pp 11-13

ABSTRACT: In recent years incidences of a "panting disease" have been occurring among cattles of some areas of Guangdong, Guangxi, Hunan, etc. provinces (regions,) chiefly among water buffalos, with some cases among yellow oxen and dairy cows. The symptoms are fever, asthma, cough, running nose, and edema. Dissections revealed pulmonary edema or emphysema, chest and abdominal fluid accumulation, and inflammation of the nasal septum. For the purpose of determining the pathogen of this new infectious disease, a survey was carried out, along with a large quantity of laboratory tests. Klebsiella pneumoniae were isolated from some diseased cattles; the findings are yet not sufficiently conclusive for a diagnosis. The survey data also indicate a close relationship between swine asthma (swine enzootic pneumonia) and this panting disease of cattle.

6248
CSO: 4011/205

Botanical Research

AUTHOR: CHEN Ruiyang [7115 3843 7122]
SONG Wenqin [1345 2429 5367]
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LIANG Neng [2733 5174]
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ORG: CHEN, SONG, LI of Department of Biology, Nankai University; LIANG, CHEN, HUANG of Guangdong Provincial Academy of Agricultural Sciences; CHEN Yunnan Provincial Academy of Agricultural Sciences

TITLE: "Studies on Three Different Karyotypes of Wild Rice in China"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 3, May 82 pp 226-230

TEXT OF ENGLISH ABSTRACT: In this paper three different karyotypes of wild rice species growing in China were examined, after the preparation of chromosome sample by wall degradation, hypotonic treatment and flame-drying method and stained with Giemsa, i.e. the karyotype of Oryza perennis: $K(2n) = 24 = 2A^{sm} 20B^{sm} + 2{}^{t}C^{sm}$; the karyotype of O. officinalis: $K(2n) = 24 = 4A^{m} + 18B^{sm} + 2{}^{t}C^{sm}$; the karyotype of O. meyeriana: $K(2n) = 24 = 6A^{m} + 16B^{sm} + 2{}^{t}C^{sm}$.

AUTHOR: TAN Kehui [6223 0344 6540]
ZHANG Yuzhu [1728 3768 4554]

ORG: Both of Plant Physiology Research Office, Research Institute of Botany, Chinese Academy of Sciences

TITLE: "Effect of Trypsin on the Vernalization Process in Winter Wheat"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 3, May 82 pp 241-246

TEXT OF ENGLISH ABSTRACT: This paper deals with the experimental results of the effect of trypsin on the vernalization process in the winter wheat. The variations of both the trypsin-like enzyme activity and the soluble protein content during vernalization in winter wheat seedlings were assayed. The results are as follows: (1) When the vernalization was progressing to the middle stage (around 25 days) the seedlings of the winter wheat were moved into the room temperature for continuous culture. These seedlings possessed the ability to ear after this kind of treatment, but earing development was rather late. Whereas the development of the earing was much earlier by treating them with 100 ppm trypsin just after moving into the room temperature condition. (2) Earing could not be induced by treatment with trypsin (100 ppm) in nonvernalized winter wheat. (3) Vernalization process was promoted in the initial period by trypsin under the low temperature, but it was inhibited in the middle and there was no remarkable effect on the developmental

[continuation of ZHIWU XUEBAO No 3, 1982 pp 241-246]

process in the later period. (4) There was no effect by the treatment of trypsin on the spring wheat under the conditions with or without vernalization. (5) The trypsin-like enzyme activity during the cold condition was increased in the initial period, then decreased remarkably later, but at the same time the soluble protein content increased rapidly. These results indicate that at the middle-later period of the vernalization the synthesis of some specific proteins is very important for the proceeding of vernalization.

AUTHOR: JIANG Delong [5592 1795 7127]

ORG: Shanghai Municipal Research Institute of Meteorological Sciences

TITLE: "The Model of Relations of Rice Tillering to Light and Temperature Conditions"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 3, May 82 pp 247-251

TEXT OF ENGLISH ABSTRACT: A preliminary study was made for the model of the tillering growth and decline of the rice colonies, which was analytically estimated with the agro-climatic data of 1973-1979 in Shanghai suburbs. The estimating result approximates to the observed value. The model we describe is $y_x = a_o + (a_f - a_o)e^{\frac{-c(d_2-x)^2}{x^2}}$. Here y_x represents the total number of rice stems in unit area when the accumulated temperature is x, which is accumulated by the effective temperature above 10°C since the transplanting of the rice seedlings, a_o is the basic seedling number in unit area, a_f is the total stem number in tillering peak, and c and d are experiential coefficient which are calculated with experimental data. For the stem number of a single plant, the model is expressed by $Y_x^o = 1 + (a_f^o - 1)e^{\frac{-c(d_2-x)^2}{x^2}}$. The actual data were used to illustrate that the

[continuation of ZHIWU XUEBAO No 3, 1982 pp 247-251]

model mentioned above is applicable not only to both Japonica and Indica rice of all varieties, but also to the description of the regional mean tillering state. When a_f^0 is known, it can be calculated with its associated light and temperature conditions.

6248
CSO: 4011/217

AUTHOR: CHEN Yuke [7115 0151 4430]

ORG: Department of Political Education, East China Teachers University

TITLE: "Increasing the Unit Yield is the Major Way of Further Development of China's Grain Production"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 19-21

ABSTRACT: The farmers usually say adding one chi in width is not as good as one cun in thickness to explain their view of the relationship between enlarging the acreage and increasing the unit yield. These words in fact explain in a nutshell the way to obtain a better economic benefit from agricultural production in China. In the past, some efforts were given to raise the unit yield of grain crops but in general there was not enough emphasis The major route was always to expand the cultivated acreage and to raise the ratio of grain crops in the existing acreage. The results were excessive land reclamation, the destruction of forests, the abandommentof animal husbandry, and the shrinking surface of lake waters. The efforts were twice as great as the gains while creating erosion, floods, salinization, desertification, and ecological imbalance. In view of consumption needs, in 1980 the per capita grain consumption for China's one billion population was 649 jin, 100 jin less than the world average of 800 jin. [? 150 jin less] If the level of consumption is to be raised to 2,400 Cal per person per day of the world average, raising the unit yield is obviously the only way. Ways of reaching this goal are detailed, using the yield of rice in Japan, corn in the USA, and wheat in Mexico as the examples.

AUTHOR: YU Shuiquan [0060 3055 2164]
WANG Fuzeng [3769 1788 2582]

ORG: Henan Provincial Agricultural Committee

TITLE: "Speed up Agricultural Development in Henan Province by Concentrated Attack on Medium and Low Yield Areas"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 21-23

ABSTRACT: At present, in the province as a whole, the grain yield is less than 600 jin/mu/year and there are 72 low yield counties where the distributed income per person is below 100 yuan [per year ?]. These counties are distributed mainly in Huanghe-Huaihe plains and the hilly and mountainous areas. The population of these areas amount to 62.2 percent of the provincial total, having 71 percent of the cultivated acreage and 60.5 percent of the total grain production. Only 43.3 percent of the fields of these areas are irrigated and the 51 jin/mu chemical fertilizer applied is 21 jin less than the provincial average. In a concise yet inclusive manner, this paper proposes possible ways of changing the medium yield to high yield, the low yield to medium yield in these areas very fast with minimal capital investment. Development of cash crops, afforestation, and diversification are included in the ways of improving the production of these areas.

AUTHOR: BAO Yongjiang [0545 3057 3068]

ORG: Research Institute of Economics, Tianjin Academy of Social Sciences

TITLE: "Strengthen Planning and Guidance for Comprehensive Development of Farming, Industry, and Auxiliary Production"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 36-39

ABSTRACT: This paper attempts to answer the much debated question of the status of commune-brigade industry in the rural economy by an analysis of the condition in Tianjin City. The suburbs of Tianjin have a large population and few resources. The cultivated land per capita is only 1.96 mu, while the average of the vegetable farmers is only 0.325 mu/person. The production expenditure is high and the income is little. The net income per mu in 1980 was only 39.1 yuan for cropland and 158 yuan for vegetable-land. The attitude of preferring industry over farming and vegetable production exists, naturally. For 23 years, there has been a policy of controlling the price of vegetables while, at the same time, allowing the production cost to rise continuously. In the 8 years of 1973 to 1980, the cost of producing major fruits and vegetables has more than doubled but the sales price remains the same if not lower. Animal husbandry has not been developed at all. To use cucumber as an example, due to the high cost of plastic films, the economic benefit of raising it in tents was notmuch better to begin with and the windstorms in Apr and May 81 destroyed the tents, the spring and summer vegetables etc. to cause the vegetable farmers to lose 8 million yuan. It is small wonder that few would try the technique again. Under these conditions, the author believes that the income from commune industries must be included in the income distribution of agricultural production if the two are to develop harmoniously together.

AUTHOR: None

ORG: Survey and Research Division, Yueyang Prefecture Committee Office of Central Communist Party, Hunan Province

TITLE: "A Survey of the Condition of Diversification in the 46 Production Brigades of Yueyang Prefecture"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 40-43

ABSTRACT: The authors visited 46 production brigades of 22 communes of the 4 counties of Huarong, Linxiang, Yueyang, and Xiangyin in the prefecture to find the way of guiding the farmers to prosperity quickly, now that the system of production responsibility has become the general practice in rural villages. In the 3 years the per capita income of 35 brigades has risen to 404 yuan, an increase of 135 percent over that of 1978; while that of 11 brigades has risen to 186 yuan, an increase of 70 percent only. The difference between the 2 groups is successful diversification. For the 11 brigades, diversification still is like "exchanging eggs for salt;" theirs is still largely a self-sufficient economy in the tradition of barter to make it very difficult for them to prosper. The paper devotes its second half to analysis of the experience of the 35 successful brigades and proposals for the 11 not-so-successful brigades.

AUTHOR: LIU Liangyu [0491 5328 3768]

ORG: Political Policy Research Office, Bureau of Agriculture and Reclamation, Ministry of Agriculture, Animal Husbandry, and Fishery

TITLE: "Past and Future of Economic Solidarity Between State-operated Frams and Rural Commune-brigades"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 50-52

ABSTRACT: Since the widespread establishment of State-operated farms in China, conflicts with rural commune-brigades have continued to surface in various forms, largely with respect to wastelands, mountain forests, grasslands, and sources of water. The subject of solidarity arises in the process of searching for ways to resolve these conflicts. In what form the linkage of these two ownership systems should take remains an unresolved problem, however. Following the peak of communization in 1958, some land and people were incorporated into State farms. At that time, about 40 percent of the land and 50 percent of the people of the farms were of commune origin. These independent farmers, who were used to keeping the profit and bearing the loss, found themselves unable to adjust to the life of employees, however. According to statistics, by 1963, half of the newly incorporated had withdrawn taking 8 million mu of land with them. More communes withdrew during the turbulent years after 1966. A new form of loose connection started in the spring of 1979, usually involving joint enterprises in such products as fruits, tea, milk, poultry, etc. In some cases, a State farm is invited by a poor brigade to invest

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much needed capital to plant rubber trees, to purchase machinery, to provide technology for a certain reward or for proportional division of profit. At present, China has more than 2,000 State-operated farms as well as 2,000 county-level supply and sale associations that are large scale enterprises located near rural villages. They should be considered as a powerful force capable of helping the rural communes and brigades to develop the rural economy. Some ways of utilizing this force are suggested.

AUTHOR: None

ORG: Reporter of the Journal

TITLE: "Beijing Regional Symposium Held by Chinese Agricultural Economics Society"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 6, 23 Jun 82 pp 53-56

ABSTRACT: A Beijing Regional Symposium was held by Chinese Agricultural Economics Society on 30 Mar to continue the discussion of the problem of development strategy of Chinese agriculture. More than 50 persons affiliated with agricultural colleges, research organizations, and operational departments in Beijing attended. This paper provides excerpts of speeches delivered by the following persons at the symposium: (1) LI Renfeng [2621 0088 1496] of the Institute of the USSR and Eastern Europe, Chinese Academy of Social Sciences; (2) ZHANG Tong [1728 2717] of the Former Bureau of Planning, Ministry of Agriculture; (3) YANG Jun [2799 0971] of Chinese Academy of Agricultural Sciences; (4) LI Shihui [2621 1102 1979] of Institute of Agricultural Economics, Chinese Academy of Agricultural Sciences. All are optimistic regarding the possibility of resolving the problem of food grain in China. With regard to strategic measures for bringing about such a resolution, the speeches do not contain any suggestion beyond the normal modernization, organic farming, unified national decision making, diversification, supporting commercial grain production, etc.

6248
CSO: 4011/200

AUTHOR: YANG Haibin [2799 3189 3453]

ORG: Kaifeng Prefecture Agricultural Committee, Henan Province

TITLE: "It is necessary to Raise the Benefits of Existing Water Conservancy Facilities of Agricultural Fields"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 7, 23 Jul 82 pp 11-13

ABSTRACT: Since the liberation, a large number of water conservancy structures have been built in Kaifeng Prefecture and they have had some definite function in the development of agricultural production. Due to the fact that the theory of expanding reproduction of Marxism was not understood, these new structures were viewed as expanded reproduction so that they were not well maintained, repaired and utilized. Under the influence of leftism, those who wanted to expand the reproduction action of existing structures were considered as conservative, negative, and do-nothing types because the leftists believed that adding new engineering structures there is an expanding of reproduction. According to the year-end statistics of 1980, the design capabilities of the existing water conservancy facilities of the prefecture are to benefit 6 million mu but only 2.70 million mu benefitted. The prefecture has 50 thousand wells and 2,000 mechanical and electrical irrigation stations. Not much capital investment is needed to add or lengthen some channels, level a piece or two of the fields, etc., to enlarge the irrigation benefit to some additional 2-3 million mu of fields. Strengthening management and implementing the system of responsibility are all that are needed to accomplish this goal. Detailed measures to carry out this idea are proposed.

AUTHOR: HE Shukai [5170 2885 0418]

ORG: Information Center, Fujian Provincial Academy of Agricultural Sciences

TITLE: "Inquiry Into the Problem of Rural Energy Sources in Fujian Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 7, 23 Jul 82 pp 44-46

ABSTRACT: Since ancient times, firewood and stubbles have always been the fuel of rural villages in Fujian. It was the traditional fuel for cooking, rural auxiliary industries, etc. A few places in the province, there were some small coal pits mined with native methods but inconvenience of transportation cause coal to be unimportant as a rural energy source, the same may be said for hydroelectrical, wind, electrical, and petroleum power. After the liberation, the development of production has greatly increased the consumption of energy, but the source of fuel remains essentially the same. The paper analyzes the supply potential of solar, hydroelectric, biological, forest tree, marsh gas, wind, geothermal, and sea water energy in the province. Ways of conserving energy are also briefly suggested.

6248
CSO: 4011/216

Forestry

AUTHOR: WEI Lin [5898 2651]
JIANG Ailiang [3068 1947 5328]
SONG Zhaomin [1345 0340 3046]

ORG: WEI of Research Institute of Geography, Chinese Academy of Sciences; JIANG, SONG of Research Institute of Forestry, Chinese Academy of Forestry Sciences

TITLE: "The Influence of Shelterbelts on the Temperature of Wheat Leaves"

SOURCE: Beijing LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 2, May 82 pp 135-142

TEXT OF ENGLISH ABSTRACT: The temperature of wheat leaves on growing plants in experiment blocks in and out of a shelterbelt system was measured by the infra-red thermometer. Data showed the following results: (1) Shelterbelt appeared to have a cooling effect on the leaves of the plants in the system in a dry season or in drought areas. (2) A change of the air current strength was made to induce a corresponding variation of eco-environmental factors which caused a difference in the leaf temperature of wheat plants in and out of a shelterbelt. (3) After the strength of the hot, dry air current reached a certain level, the different value between the front and the back of a shelterbelt had a tendency to decrease. (4) The mean temperature on leaves of the wheat plants behind the shelterbelt was 1.3°C which was lower than that of those in the open field, during the period of jointing stage to maturity. Their accumulated temperature was 49.5°C less, which was about the equivalent of 2 days of temperature accumulation. The date of maturity of those wheat plants behind the shelterbelt was delayed about 2-3 days.

AUTHOR: LI Guangda [2621 0342 1129]

ORG: Northeast College of Forestry

TITLE: "A Study on the Rationality of Application of Modern Mobile Logging Machinery in China"

SOURCE: Beijing LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 2, May 82 pp 185-191

TEXT OF ENGLISH ABSTRACT: In the last decades, countries that are advanced in forest industries have developed various mobile logging machines (feller-buncher, harvester, processor) for the purpose of realizing full mechanization. This paper gives a brief account of such sophisticated mobile logging machinery. China has imported some such heavy logging machinery from overseas, which are being tested at present. First results indicate that this heavy machinery is not suitable for the present stage of development in China. From the socioeconomic point of view, for the moment, it is not desirable to introduce such expensive and sophisticated machines, due to the abundant availability of manpower resources at extremely low cost. We should give priority to appropriate technology which requires less investment and brings more benefits.
6248
CSO: 4011/218

AUTHOR: XU Zhigang [6079 1807 4854]
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WANG Meizhen [3769 5019 3791]

ORG: XU, ZHU, LU, FANG of Nanjing College of Agriculture; WANG of Jiangsu College of Agriculture

TITLE: "Comparison of Some Properties of Two Groups of Phage of Xanthomonas Oryzae Dowson"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 2, Jun 82 pp 1-6

TEXT OF ENGLISH ABSTRACT: More than 20 isolates of the bacteriophage of Xanthomonas oryzae from leaves and seeds of diseased rice plants and irrigation water of diseased paddy fields were separated into 2 groups on basis of their morphology and other properties. Phages of group XOP 1 (represented by isolate OP-3) produce large plaque about 3 mm in diameter. It is tadpole shaped with a polyhedral head of 65 nm in diameter, and a striated non-contractile tail of 140 x 18 nm in size. The latent period and raising period are respectively 40 and 30 minutes, and their average burst size is about 35 plaque forming units (PFU) per cell. Phages of group XOP 1 are completely inactivated by heat treatment at 58°C for 10 minutes and

[continuation of ZHIWU BINGLI XUEBAO No 2, 1982 pp 1-6]

the unabsorbed free phages of this group are inactivated by ferric salts solution (10^{-4}M.) Phages of group XOP 2, represented by isolate OP-12, produce small plaque about 1 mm in diameter. It is also tadpole shaped, with polyhedral head of 70 nm in diameter, and a short contractile tail 90 x 20 nm in size. The latent period and raising period are 80 and 50 minutes respectively and their average burst size is about 8 plaque forming units per cell. Phages of group XOP 2 are completely inactivated by heat treatment at 68°C for 10 minutes. Serologically they are also different, experimented phages of group XOP 1 and XOP 2 are specific to Xanthomonas oryzae, but phages of group 2 is much broader in spectrum of its hosts than group XOP 1, judging from their reaction to different isolates of Xanthomonas oryzae.

AUTHOR: TAO Jiafeng [7118 1367 7364]
SHEN Yanzhang [3088 6056 4545]
QIN Jiazhong [4440 1367 1813]
QIN Yun [4440 5466]

ORG: All of Sichuan College of Agriculture

TITLE: "Varietal Resistance of Wheat to Powdery Mildew"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 2, Jun 82 pp 7-14

TEXT OF ENGLISH ABSTRACT: Seedlings of wheat species and varieties resistant or susceptible to powdery mildew were inoculated with conidia of Erysiphe graminis tritici. About 60 percent of the conidia germinated and formed appressoria within 8 hours after inoculation. The percentage and rate of conidia germination on the leaf surface of resistant and susceptible wheat varieties showed no difference at the early stage of infection. The difference became apparent at the stages of penetration and further development. Earliest penetration was observed on the highly susceptible group 12 hours after inoculation, 83 percent of germinated conidia to penetrate within 36 hours. Less germinated E. graminis tritici conidia penetrated into leaves of resistant varieties of wheat than into those of susceptible ones. During 36 hours, the percentage of penetration of the susceptible, resistant, and highly resistant varieties were 65, 45, 27 percent respectively. The haustorial formation in the case of resistant varieties delayed and the haustoria developed in the epidermal cell of resistant varieties were smaller. On resistant plants developed fewer, less dense colonies with less sporulation than on the susceptible plants.

AUTHOR: YUAN Yili [7086 5030 3810]
JIN Dengdi [6855 4098 6611]
LIN Ruifen [2651 3843 5358]

ORG: All of Plant Protection Center, Zhejiang Provincial Academy of Agricultural Sciences

TITLE: "The Host Range of the Wheat Rosette Disease (NCMV)"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 2, Jun 82 pp 21-24

TEXT OF ENGLISH ABSTRACT: Seventy gramineous species including both the cultivated and wild were tested by viruliferous planthopper (Laodelphax striatella Fallen) inoculations. The inoculated plants were detected with a serological method of carbon agglutination. The results indicated that 16 genera, 53 plant species of them were the host plants of NCMV. They are: Hordeum distichum, H. distichum var. nudum, H. vulgare, H. vulgare var. nudum, H. lagunculiforme, H. agriocrithom var. eilaviocrithon, H. agriocrithon var. nudus, H. agriocrithon var. dawoense, H. spontaneum, Triticum monococcum, T. aegiloides, T. turgidum ramoso-lusitanicum, T. dicoccoides, T. durum, T. polonicum, T. persicum, T. timopheevii, T. aestivum, T. compactum, T. sphaerococcum, T. spelta, T. macha, T. orientale, T. pyramidale, Aegilops ventricosa, Ae. squarrosa, Ae. crassa, Ae. juvenalis, Ae. kotschyi, Ae. variabilis,

[continuation of ZHIWU BINGLI XUEBAO No 2, 1982 pp 21-24]

Ae. cylindrica, Ae. ovata, Ae. longissina, Ae. sp., Haynaldia villosa, Triticale, Secale cereale, Lolium multizlorum, Bromus japanicus, Poa annua, Beckmannia erucaeformis, Avena sativa, Phleum paniculatum, Eragrostis pilosa, E. pilosa var. imberbis, E. ferruginea, Polypogon fugax, Setaria italica, S. viridis, S. lutescens, S. faberii, and Zea mays saccharata.

AUTHOR: YUAN Xingye [7086 5281 2814]
JIANG Yuchang [5592 5148 2490]
LUO Wenfu [5012 2429 1381]
WANG Jiahe [3769 1367 0735]

ORG: All of Department of Plant Protection, Yunnan University of Agriculture

TITLE: "Two New Forms of Fusarium avenaceum (Fr.) Sacc.: The Pathogens of Broadbean Stem-end Rot"

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 2, Jun 82 pp 25-32

TEXT OF ENGLISH ABSTRACT: In our collection of Fusarium specimens, we obtained 2 isolates designated No Y088 and No Y089 of Fusarium avenaceum (Fr.) Sacc. from stem-end rot samples of broadbean plants from suburb of Kunming in Feb 1975. Cultural studies on PSA and PDA showed that No Y088 produced well developed mycelia and 2 types of macroconidia. One is the general avenaceum type, the other is the Graminearum type. No 089 produced merely pionnotes over the media and was characterized as a typical pionnotes type, although it may occasionally develop poor aerial mycelia on surface of the colony. Host range studies confirmed that both Y088 and Y089 infected broadbean and green pea and slightly infected Vicia cracca L in artificial inoculation, but they are much weaker in virulence than No Y086. The

[continuation of ZHIWU BINGLI XUEBAO No 2, 1982 pp 25-32]

growth rate of single spore colonies and the amount of sporulation of these isolates were compared. Based on the studies, the two isolates can be recognized as two distinct forms of Fusarium avenaceum (Fr.) Sacc.: namely Fusarium avenaceum (Fr.) Sacc.f. fabarum Ruan et al. f. nov. for Y088 and Fusarium avenaceum (Fr.) Sacc. f. fabalis Ruan et al. f. nov. for Y089.

AUTHOR: ZHANG Zhide [1728 1807 1795]

ORG: Department of Plant Protection, Northwest College of Agriculture

TITLE: "On the Incidence of Maize Head Smut (Sphacelotheca reiliana (Kuhn) Clint."

SOURCE: Tianjin ZHIWU BINGLI XUEBAO [ACTA PHYTOPATHOLOGICA SINICA] in Chinese No 2, Jun 82 pp 33-40

TEXT OF ENGLISH ABSTRACT: The maize head smut disease (Sphacelotheca reiliana (Kuhn) Clint.) infected maize budlets and young roots of seedlings, but the percentage of infected budlets was higher than that of young roots. No significant difference of infection was shown in budlet sheath and hypocotyl. Infections occurred since the germination of seeds up to the 7-leaf stage and no infections took place after the 9-leaf stage. More seedlings were infected in the 3-leaf stage. Infection of the fungus was effected within the range of soil temperatures 3-35°C; the optimum was at 16-25°C (22°C.) No significant difference was observed in the percentage of infection of different sowing dates in spring. Maize plants sown in summer were rarely infected. Percentage of infection was high when the moisture capacity of soil was at 15.5 percent while decreased when the humidity was too high or too low. Seedlings emerged from a thicker layer of infected soil resulted in a higher percentage of infection. The fungus was observed to be able to live for 2 seasons under field conditions.

6248
CSO: 4011/219

AUTHOR: LI Xincheng [2621 2450 2052]

ORG: Lingchuan County Party Committee

TITLE: "Tap Local Potentials and Speed up Construction in Mountainous Areas"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCE] in Chinese No 7, 1982, pp 2-5

ABSTRACT: In his position of county party secretary, the author made a resource inventory of his county covering 1760 square kilometers, between 628 and 1792 meters of elevation at one end of the Taihang Mountain range. Here winters are long and summers are not markedly different in onset, when most precipitation drops off, supporting one crop harvest per year. In this climate, potatoes grow better than wheat. To suit the terrain, fruit (apple, walnut and hawthorn) and mulberry trees are projected to be increased in area in addition to afforestation. The hydroelectric potential can power the opening up of local deposits of coal, marble and sulfur as well as the operation of small cement enterprises. Though reported with an optimistic tone, the author-cadre implicitly concedes difficulties ahead by his shifting the emphasis to trees and mines from the present cultivation of some 70,000 acres of marginal farm land for the nearly one-quarter million inhabitants.

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SCIENTIFIC COTTON FARMING DISCUSSED IN TERMS OF OLD PEASANT ADAGES

Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 4, 1982 pp 10-11

[Article by Wang Ruohai [3076 5387 3189] and Li Xiulan [2621 4423 5695]: "Sowing of Seeds To Keep a Good Stand of Seedlings, Keys to Increased Cotton Yields (Scientific Truth in Old Peasant Adages")]

[Text] Sowing of seeds to keep a good stand of seedlings is the beginning of cotton growth and the beginning of field care. Only when seeds are sown well to maintain a good stand of seedlings can all other farming techniques be effective and a bumper harvest won. Consequently, sowing of seeds to maintain a good stand of seedlings is the most important key to increased cotton yields.

In the course of a long period of production, the broad masses of cotton-growing peasants in China have accumulated abundant experience in the sowing of seeds to maintain a full stand of seedlings. An old peasant saying goes:

> "When there are seedlings, growth can occur;
> "Without seedlings, one can only dream.
> "A full stand of seedlings makes for 30 percent of the harvest.
> "Sturdy seedlings make for half of the ripe cotton."

Cotton is a dicotyledenous plant whose seeds are large and its two cotyledons are fleshy, which makes it much more difficult for them than for other crops to sprout and emerge from the soil. The masses say that cotton has a large head and a thin neck, and when it pushes up against the soil, a lot of effort is required, and it is hard for it to come through the soil. Moreover, after sprouting, the young seedlings are tender and are easily affected or killed by diseases and insect pests. So, the broad masses of cotton-growing peasants urgently hope to get through the dangerous stage of sowing to get a good stand of seedlings without a hitch by first getting a full stand of seedlings, and then going on to getting early, sturdy, full, and even growth of seedlings.

How does one sow seeds to get a good stand of seedlings?

First, both the seeds and the soil have to be made ready before sowing. This forms a foundation for sowing the seeds to get a good stand of seedlings.

In preparing the soil, since the cotton growing areas of north China are usually dry in the spring with little rainfall, preparing the soil to preserve soil moisture before sowing is done is extremely important. An old peasant saying goes:

> "It takes deep plowing and fine harrowing to make the cotton grow; shallow plowing and coarse harrowing is a waste of effort.
>
> "When harrowing is done early, soil moisture is kept."

When cottonfields are plowed deeply in autumn and the surface layer is friable, not only is the breakdown of nutrients promoted and the fertility of the soil increased, but it also helps the soil accept more winter and spring rains or snows and irrigation water, making the basic soil moisture of the cottonfields good. In early spring right after the soil's surface thaws, or else following spring watering, harrowing should be done promptly to make the surface soil of the cottonfields friable and the underlying layer firm to reduce evaporation of the soil's water content and to preserve soil moisture, all of which helps sprouting of the cotton.

However, in south China cotton-growing areas where spring rains are fairly plentiful, it is necessary to dig trenches and erect ridges in fields to prevent water stagnation so that seedlings will be able to emerge. Therefore, their experience is: "When trenches are deep and ridges narrow, cotton will be harvested year after year."

As far as readying the seeds is concerned, seeds should be selected before sowing, largely by grain-by-grain selection, selection through the water flotation method, or through winnerering to get healthy, plump seeds. This is very important in improving cottonseed quality and in winning a full stand of sturdy seedlings. As the old peasant adage goes:

> "Good seeds produce good seedlings; good seedlings form good bolls."

Before sowing, cotton seeds should be properly processed. If seeds are allowed to absorb water before sowing, sprouting will be promoted. In addition, disinfecting for diseases and insect pests to reduce damage from them can be done. Seeds may also be separated so they may be sown evenly. Thus, an old peasant adage goes:

> "Soaking cottonseeds in water and rubbing them with ashes
> "Makes them sprout and grow well;
> "When cotton seeds are mixed in mud;
> "They sprout fast and grow evenly."

Nowadays very great development has taken place in the processing of cottonseeds, as for example the use of a 55-60°C hot water bath treatment, which forces sprouting of the seeds. Or sulfuric acid may be used to remove the fuzz from the surface of cottonseeds. Another treatment is use of pentachloronitrobenzene as a germicide in which seeds are mixed to prevent disease. Or furan insecticide may be used to mix the seeds to prevent insect pests, etc. These treatments make for better stands of seedlings when seeds are sown.

Second is knowing when to sow the seeds and giving careful attention to seed sowing techniques to improve seed sowing quality. This is a major technique for good sowing of seeds to insure good stands of seedlings.

Sowing of cottonseeds at the right time has a very important bearing on winning full stands and harvesting a bumper crop. If sown too early when temperatures tend to be low, a long time will be required for sprouting and many nutrients will be wasted. Cotton seedlings will have little vitality and be prone to damage from disease. Stands will be "early but not full." Conversely, if sown too late, though temperatures are high and seedlings sprout fast, stands will be "full but not early," which will be bad for increased cotton yields.

The cotton-growing regions of China cover a wide area from south to north. A look at some old peasant adages shows the best times for sowing cotton in local areas as derived from practical experience, as follows:

> "When the date trees bud, cotton should be planted." (North China).
>
> "When Qingming comes early and Lixia is late, the time of the grain rains [around 20 April] is right for planting cotton." (North China).
>
> "Before the grain rains is the right time for planting cotton; and after the grain rains is the right time for planting beans." (Hebei).
>
> "Before Qingming (around 5 April) is the right time for planting cotton. (Rangyang, Hubei).
>
> "When lotus leaves are as large as a copper cash, cotton is being planted everywhere." (Jiangxi).
>
> "When plowing for millet begins and plowing for flax is finished, following the grain rains is the right time to plant cotton." (Liaoning).

In deciding the time to plant cotton, temperature is most important. This is because when cotton sprouts, complex material changes take place within the seeds. If the temperature is right, these material changes occur rapidly, and the cotton sprouts and puts forth seedlings rapidly. Results of scientific experiments and practice in production during recent years show that the right time for sowing cotton is when ground temperature to a depth of 5 centimeters is stable at 14 to 15°C. In an overwhelming majoring of China's cotton-growing regions, the right time for sowing cotton is from mid to late April. In Chang Jiang basin cotton-growing regions of the south, it may be planted somewhat earlier than this, and in the North, in places such as Liaoning Province, it may be delayed somewhat.

For cotton to sprout, in addition to temperature conditions, it is necessary to consider moisture and air conditions as well. So the specific time when cotton is to be sown in various areas has to be flexibly understood in terms of diverse factors. As an old peasant adage has it:

> "When the moisture is there, don't wait for the time;
> "When the time has come, don't wait for the moisture."

This means that in cotton-growing regions of north China, sowing has to be done promptly when soil moisture conditions are right. If soil moisture conditions are right several days before the right time, sowing should be done right away without sitting around to wait for the right time. If soil moisture conditions are not good, but the time for sowing has arrived, ways will have to be found to combat drought and begin planting. One cannot wait until it rains and there is soil moisture to begin sowing. In south China's cotton-growing regions, the experience is as follows:

> "It is better to sow on a clear day than to sow on a wet day."

Inasmuch as there is much rainfall during the spring in southern cotton-growing areas, frequently the soil contains too much water and ventilation is poor, making the seeds prone to rot. Therefore, their experience tells them that seeds should be sown when the weather is clear; following rains when the soil is wet, it would be better to wait, etc.

> "On alkaline soils, which are cold, cotton should be sown around "beginning of summer" [around 5 May].

Saline-alkaline soils warm up fairly slowly, so cotton sowing has to be delayed by about 10 to 15 days later than normal. Only when sown around the time of "beginning of summer" will conditions be right for a full stand.

When sowing, care must be taken with proper sowing techniques to improve sowing quality. Depth of sowing must be right. If sown too deeply at low temperatures when there is little air in the soil, seedlings will have a hard time pushing up through the soil and will emerge poorly. If sown too shallowly, the soil surface will easily dry out and the cotton seeds will find it hard to absorb water, so budding and seedling growth will be hurt. Thus, an old peasant adage says:

> "If planted deep, seeds mold; if planted shallow, they dry out."

> "One finger deep is too shallow; two fingers deep is too deep; three fingers is too much and the seeds will be suffocated."

Because the weather is often dry with much wind when cotton is sown in the cotton-growing regions of north China, seeds that have been sown shallowly are prone to dry out, so they should be sown somewhat deep. In sandy soils or soils in which surface moisture is poor, seeds should generally be sown to a depth of 4 to 5 centimeters. In clayey soils or soils with good surface moisture conditions, seeds should be sown to a depth of 3 to 4 centimeters. As an old peasant adage says:

> "1 cun is shallow and 2 cun is deep; neither shallow nor deep is 1½ cun;
>
> "Plant shallow when wet and deep when dry."

In southern cotton-growing areas where there is much spring rain making the soil rather sticky and heavy, if seeds are planted deep; there will not be enough air in the soil and they will be prone to rot, so a shallow ditch should be dug and seeds covered lightly with soil. Thus, an old peasant adage says:

> "Seedlings can grow out from under a cun of soil."
>
> "Shallowly sown seeds will produce harvests year after year, but deeply sown seeds will produce a bad harvest."

When the weather is dry and soil moisture inadequate, seeds must also be sown well to assure full stands. The broad masses of cotton-growing peasants in China have figured out many ways in which to fight drought to plant seeds.

> "Deep sowing with shallow covering for a full stand of seedlings."
>
> "One finger deep sowing (in dry soil), two fingers deep for rush sowing, and three fingers or more deep and borrowing soil moisture."

"Deep sowing and shallow covering" requires deep sowing so that the seeds come in contact with moist soil, but with light covering so that once the seeds have absorbed moisture, they will be able to sprout out of the soil quickly. "Borrowing soil moisture" means that after seeds have been sown in drought conditions, they should be covered with moist soil taken from close by to thicken the moist layer of soil, which helps in seed absorption of water and sprouting. The wet seed planting mound developed by cotton-growing peasants in Shandong Province is a good way to fight drought to plant cotton; it should be advocated. The specific way used is as follows: A shallow trench is dug (to a depth of 3 to 4 centimeters), and is filled to the top with water (to provide soil moisture). Then seeds are sown by hand a certain distance apart, and the soil is mounded over them (to a height of about 2 cun). After most of the cottonseeds have rooted, the mound is pushed over and the soil leveled.

Third is intensification of field care after sowing as a way to assure good sowing to maintain a full stand. Inasmuch as completion of the sowing of seeds does not mean that everything will then go along without a hitch, ways have to be found to hasten the emergence of the cotton seedlings from the soil and to prevent or reduce the number of diseased or dead seedlings, making every effort not only to get a full stand but to get early, strong, full, and even stands of seedlings. China's cotton growing peasants also have had a great amount of experience in techniques for maintaining stands after sowing, as follows:

> "If the cotton is wrapped in a sheath, it will never sprout."

By this is meant that should the soil be compacted by rain after the cottonseeds have been planted and the soil become hard as a sheath, it will be very hard for the seedlings to break through the soil, and extremely easy for rotting of buds to occur with no seedlings developing. Therefore, following rains, it is necessary to loosen the soil and break the hard surface at once.

> "Gentle hoeing of the cotton, and it will thrive year after year."

> "Deep hoeing to increase soil temperature and the cotton will not develop black root."

This means that cottonfields should be cultivated early and frequently to loosen the soil. When the soil contains a fairly large amount of moisture, it should be cultivated more deeply. In this way soil temperature can be increased, the ventilation of the soil improved, the breakdown of soil nutrients accelerated, and both weeds eliminated and diseases and insect pests reduced to promote growth of sturdy seedlings and to reduce the number of dead seedlings.

> "If seedlings are replaced when they are small, a harvest can be had, but if seedlings are not replaced, a season is lost."

Ways should be found to replace seedlings that are missing in cottonfields. Replacement of seedlings must be done early and swiftly. The earlier, the less the effect on yields. Early on, resowing can be done; later, seedlings can be transplanted. The seedling transplantation method created by Shanxi labor model, Wu Jichang [0702 0679 2490], whereby seedlings with two leaves are transplanted without any soil on their roots saves both work and water, and has a high survival rate. It is a good way to assure full stands in cottonfields where seedlings are replaced.

> "If seedlings press upon each other, no bolls will form;
> "Where seedlings are scant, leave more; where seedlings are dense, leave fewer; if neither scant nor dense, leave the big ones."

Once the seedlings have emerged, they should be thinned and singled at once so that "seedlings do not press against seedlings," in order to achieve sturdy, full, and even stands of seedlings. The principle underlying thinning and singling of seedlings is that where seedlings are scant, more should be allowed to remain; where seedlings are dense, fewer should be allowed to remain. Generally one should leave sturdy cotton seedlings at a certain distance from each other.

Accompanying the development of scientific techniques and with the support of agriculture by the plastic film industry, new developments have taken place during the past several years in techniques for sowing cotton to maintain full stands. One has been the use of plastic film to cover seedling beds and the transplanting of seedlings that have been propagated. Another is the covering of open fields with plastic film, with the cotton growing directly under the plastic mulch. These are good ways to obtain full, early, sturdy, complete, and even stands of seedlings, and ways in which to increase cotton output remarkably.

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COMMODITY CATEGORIES, PROCUREMENT EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 1982 p 45

[Article by Ge Quanlin [5514 3123 2651] and Zhang Xiaonmao [1728 4382 5399], Ministry of Commerce: "How Are Agricultural and Sideline Products To Be Classified and Their Unified, Assigned, and Negotiated Procurement Done?"]

[Text] The division of agricultural and sideline products into categories, I, II and III, and their unified procurement, assigned procurement, and negotiated procurement are the national management methods for agricultural and sideline products, and the procurement policies currently in effect. In view of the state of development of China's productivity and the degree of importance of various agricultural and sideline products to the national economy and the people's livelihood, in order to have planned control over agricultural and sideline products, to do unified planning with due consideration for all concerned, to arrange industrial production properly, and to meet the needs of the people's livelihood and export trade, the state has divided agricultural and sideline products into three categories for management purposes, and has instituted unified procurement, assignment procurement and negotiated procurement policies.

Grain, cotton, and edible oils, which are agricultural and sideline products of greatest importance to the national economy and the people's livelihood, are classed as category I products, and unified procurement and unified marketing of them is practiced. Flue-cured tobacco, hemps, tea, silkworm cocoons, livestock products, sugar, live hogs, fresh eggs, fruits, major medicinal herbs, major aquatic products, mosa bamboo, raw lacquer, and such industrial raw materials, export goods, and items needed in the daily life of the people that are agricultural and sideline products of relatively great importance to the national economy and the people's livelihood are classed in category II, and assigned procurement and marketing in accordance with plan is practiced in their case. All agricultural and sideline products not included in categories I and II are Category III products for which negotiated procurement and negotiated marketing is practiced. In the case of Category I and Category II agricultural and sideline products, the state makes unified plans, sets unified prices, and carries out unified distribution. All procurement, marketing, transfer, import, export, and storage quotas for Category I goods is under the centralized management of the State Council. Category II goods are under the authorized management of ministries and commissions so entrusted by the State Council. Some products in this category or some quotas are under the centralized management of the state council. The various plans set for Category I and II goods are a major aspect in strengthening of state centralization of the macro-economy, and all jurisdictions and departments must insure their implementation. Active fulfillment of unified procurement and assigned procurement quotas through sales to the state is a glorious duty for which peasants must exert themselves to the full. In order to coordinate the self-determination of production teams, the initiative of peasants, and state economic plans, under the principle of concurrent concern for the country, the collective, and individual interests, it is also necessary to give peasants the right of control over products, within certain limits, in order to stir their enthusiasm for production. Disposal of Category I and Category II products remaining following fulfillment of stipulated base procurement figures or agreement quotas is to be done according to different methods depending on specific circumstances for different varieties of goods. For certain major industrial raw materials in short supply, export goods, and means of agricultural and fishing industry production such as cotton, flue-cured tobacco, moso bamboo, gao bamboo [4643 4554], cowhide and some other livestock products, considering that the country's needs are fairly large and that sources of supply are as yet insufficient, regulations do not permit peasants to sell such goods freely in markets, but rather the state continues to purchase them. Where quantities of goods required for marketing internally or abroad are fairly large, tea being an example, the state will also continue purchases of a certain proportion in order to arrange for internal and external requirements, any remaining amounts being permitted to be sold in markets. Other category II products needed in the daily life of the people are to be handled by the peasants themselves. They may be sold in markets or they may be purchased by the state at negotiated prices and sold at negotiated prices. Purchase prices paid for products remaining following fulfillment of quotas are allowed to fluctuate within certain limitations in accordance with the market supply and demand situation. Category II products are managed locally, and in accordance with State Council programs and policies they are to be purchased and marketed well and briskly. For a small number of important varieties of Category III products, in order to insure special export needs and the needs of large cities, management methods used for Category III products may be applied in order to control a certain source of supply. Specific varieties and methods to be used are to be decided by provincial, municipal, and autonomous region governments.

Many years practice has shown that the division of agricultural and sideline products into categories I, II, and III, and the institution of unified purchase, assigned purchase, and negotiated purchase as basic policies has been effective and in accordance with China's actual circumstances. It embodies the principle of taking the planned economy as the key link with market regulation playing a supplementary role, and plays a major role in promotion of production, in insuring needs, in stabilizing markets, and in stabilizing prices.

As the country's national economy readjusts, agricultural production develops, and agricultural and sideline products increase, specific policies and management methods for procurement of agricultural and sideline products must also conform to changes in production and marketing. Designation of specific varieties of goods as Category I, II or III will have to be properly readjusted on the basis of different circumstances for each variety.

Supplement: Current List of Category I and II Agricultural and Sideline Products

Category I: Grain, cotton, edible oils, and lumber.

Category II: Varieties of goods for which the Supply and Marketing Administration is responsible: Jute and ambari hemp, China grass, flue-cured tobacco, wool, sheepskins, xiao hu [1420 3275] sheepskin, kidskin, feathers, hog casings, pig bristles, mulberry silkworm cocoons, tussah silk cocoons, tea, fine quality sun-cured tobacco, grass mats, coir mats, bamboo, hao bamboo [4643 4554], citrus fruit, handmade paper, honey, raw lacquer, apples, tree fungus, star anise, kid leather, goat hair, sheep casings, red dates, hot pickled mustard tuber, day lily, rush mats, charcoal, draft animals, hemp, goat coasings. 2. Varieties of goods managed by the Ministry of Commerce: Live hogs, beef cattle, carcass-type sheep, fresh eggs. 3. Varieties of goods for which the Ministry of Forestry is responsible: Resin yuanjiao [0626 5231]. 4. Varieties of goods for which the Aquatic Products Administration is responsible: Large yellow croaker, small yellow croaker, hairtail, cuttlefish, butterfish, pomfret, conger pike, herring, slate cod croaker, flounder, prawns, abalone, sharkfins, fish maw, beche-de-mer, scallops, dried shrimp, small dried shrimp, squid, and jellyfish. 5. Varieties of goods for which the Ministry of Food is responsible: Tung oil, castor oil, wood oil, Chinese tallow tree oil, and catalpa oil. 6. Varieties of goods for which the Ministry of Foreign Trade is responsible: Peppermint oil and citronella oil. 7. Varieties of goods for which the State Pharmaceutical Administration is responsible (including Category II and costly medicinal materials): Musk, Pesoar, the rhizome of Chinese goldthread [Coptie chinensis], the bult of frittilary [Fritillaria thunbergii], licorice, Chinese wolfberry [Lycium chinense], Chinese yam, yuanhu [0337 3275], the bark of eucommia [Eucommia ulmoides], taro pulp, yinhua [6892 6363], safflower, ginseng (including yeshan ginseng), dangshen [codonopsis pilosula], Chinese angelica herb, chuanxiong [Coniososelinum unvittatum Turez], the dried rhizome of rehmannia [Rehmannia glutinosa], Atractylis ovata Thunb, peeled root of herbaceous peony [Paeonia albiflora], tuckahoe [Poris cocos], the tuber of dwarf lilyturf [Ophiopogon japonicus], monkshood, Aucklandia lappa, root of bidentate achyranthes [Achyranthes bidentata], root of Zhejiang figwort, root bark of the tree peony [Scrophularia ningpoensis Hemsl.], sanai-ginseng [Panax peseudo-ginseng], pilose antler tonic, root of membranous milk vetch [Astragalus membranaceous], chrysanthemum flower, bark of official magnolia officinalis], tuber of elevated gastrodia [Gastrodia elata], sharen [4263 0088] [Hedychium Coronarium], Chongcao [5722 5430], tiger bone pills, leopard bone pills, bear gall bladder, Quanchong [0356 5722, Chinese cassia, Aquilaria agallocha, Bufo vulgaris, Bacopa monniera, asses' glue, rhinoceros indicus, guangjiao [1684 6037], antelope's horn, frankincense, myrrh, dragon's blood [calamus craco], sandalwood, gongdingxiang [Jambosa caryophyllus], and xihonghua [6007 4767 5363]. 8. Varieties of goods for which the Ministry of Light Industry is responsible: sugarcane and sugarbeets.

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FOOD, FERMENTATION INDUSTRIES CLASSIFICATION SYSTEM SUGGESTED

Beijing SHIPIN YU FAJIAO GONGYE [FOOD AND FERMENTATION INDUSTRIES] in Chinese No 2, 1982 pp 86-89

[Article by Qin Hanzhang [4440 0698 4545]: "Suggestions Concerning Classification of Food Industry in China With Appendix on Classification of Fermentation Industries (Classified Chiefly on Basis of Sources of Raw Materials)]

[Text] First, Agricultural Product Food Industries

(1) Grain Industry

For example:

1. Hull rice

2. Milled rice

3. Flour

4. Starch

5. Potato starch

6. Lotus root starch

7. Bread

8. Crackers

9. Maltose (Malt sugar), starch sugar (glucose), grape syrup (isomeric syrup)

10. Gluten, oleaginous buckwheat gluten

11. Sesame seed cakes

12. Oatmeal

13. Sliced tubers

14. Malt

15. Caramel

16. Pastries, cakes and sweetmeats

17. Pulse processing (soybean paste, soybean starch, beancurd, thin sheets of beancurd, (dried bean milk cream in tight rolls), dried beancurd, fried beancurd, pressed beancurd sheets, mung bean vermicelli, sheet jelly made from bean or sweet potato starch

18. Other (macaroni, puffed foods)

(2) Fats and Oils Industry

For example:

1. Pressed oils

2. Refined oils

3. Peanut butter, sesame paste

4. Margarine

5. Other

(3) Beverage crop processing

For example:

1. Tea industry (black tea, green tea, scented tea, brick tea, oolong tea)

2. Coffee roasting

3. Cocoa manufacture

4. Hops drying and smoking (beer hops)

5. Other

(4) Sugar crop processing

For example:

1. Sugar manufacturing industry (brown sugar, white sugar, granulated sugar, syrup, waste molasses)

2. Sugar refining industry (refined sugar, cube sugar)

3. Chocolate and gum manufacturing

4. Common candy manufacture

5. Other

(5) Condiment crop processing

For example:

1. Chili pepper processing (dried chilies, chili powder)

2. Fennel processing (fennel extract, fennel oil)

3. Clove processing (clove oil)

4. Fresh ginger processing (dried fresh ginger, fresh ginger extract, candied ginger)

5. Garlic processing (sugared garlic, salted garlic, pickled garlic, garlic heads, garlic powder)

6. Curry powder

7. Black pepper

8. Mustard, hot mustard sauce

9. Cassia bark, cinnamon powder, cinnamon oil

10. Nutmeg, mace

11. Other

(6) Medicinal crop processing

For example:

1. Peppermint processing

2. Ginseng processing

3. Chinese angelica processing

4. Eucalyptus extracting (cough syrup)

5. Other

(7) Tobacco crop processing

For example:

1. Cigarette industry

2. Water pipe tobacco
3. Plug tobacco
4. Shredded tobacco
5. Snuff
6. Cut tobacco
7. Cigar tobacco
8. Asthma tobacco
9. Other

Second, Orchard and Garden Product Food Industry

For example:

1. Fruit juice (including grape juice, fresh orange juice, lemon juice, etc.)
2. Syrup
3. Jelly, pectin
4. Marmalade
5. Jam
6. Dried fruit
7. Salted vegetables
8. Vegetables pickled in soy sauce
9. Pickled vegetables
10. Pickled Chinese cabbage
11. Dried vegetables
12. Preserved fruit
13. Dried flowers (lily buds, roses, daidaihua [7818 7818 5363], jasmine flowers, etc.)
14. Honeyed flowers (honeyed roses, honeyed sweet-scented osmanthus)
15. Other

Third, Livestock Products Food Industries

(1) Slaughterhouses

1. Livestock butchering
2. Livestock butchering

(2) Egg processing

1. Fresh eggs, frozen eggs
2. Egg powder (protein powder, egg yolk powder, whole egg powder)
3. Preserved eggs (1,000 year old eggs)
4. Salted eggs
5. Pickled eggs

(3) Meat processing

For example:

1. Frozen meat
2. Smoked meat
3. Salted meat, cured meat
4. Ham
5. Sausage, cured hog tripe
6. Air aged chicken, pressed duck
7. Lard, beef fat (including other animal fats and oils used as food)
8. Meat broth
9. Pork floss
10. Stewed chicken livers, stewed duck livers
11. Dried beef cooked with five spices powder
12. Other

(4) Dairy product processing

For example:

1. Milk (bottled milk, pasteurized milk, whole milk)
2. Butter
3. Butter fat (cream)
4. Ice cream and ice cream powder
5. Cheese
6. Condensed milk
7. Milk powder
8. Casein
9. Lactose
10. Whey powder
11. Sour milk
12. Kumiss (cow kumiss, horse kumiss, camel kumiss)
13. Skimmed milk
14. Other

Fourth, Forest Products Food Industry

For example:

1. Maple sugar
2. White pine syrup
3. Pine nuts
4. Chinese toon [Toona sinensis]
5. Mushrooms
6. Wood fungus
7. Bamboo shoots (dried slices of tender bamboo shoots, bamboo tips)
8. Other

Five, Aquatic Products Food Industry

(1) Breeding

(2) Catching

(3) Processing

For example:

1. Water shield
2. Water chestnut powder
3. Agar-agar (edible seaweed) (toufa cai [7333 4099 5475], laver, siliquose pelvetia)
4. Jellyfish
5. Kelp
6. Beche-de-mer
7. Fish oil, fish liver oil
8. Sharkfins
9. Whitebait
10. Frozen fish
11. Salted fish
12. Small dried shrimp
13. Lobster, shrimp (prawns)
14. Crabmeat
15. Scallops
16. Agar agar
17. Other

(4) Edible salt manufacturing (or salt making industry)

For example:

(1) Salt manufacturing

1. Sea salt
2. Well salt
3. Lake salt

(2) Salt refining

1. Refined salt
2. By-products

Sixth, Insect Products Food Industry

For example:

1. Honey
2. Beeswax
3. Royal jelly
4. Other (Silkworm chrysalis protein)

Seventh, Fermentation Industries (including distilling industries)

For example:

1. Soy sauce
2. Vinegar
3. Shaoxing wine (pressed wine)
4. Gaoliang liquor (distilled liquor)
5. Beer
6. Grape wines and other related fruit wines (pressed wines)
7. Apply wines
8. Foreign alcoholic beverages, sweet wines, and associated liqueurs (distilled liquors)
9. Sweet paste [3929 6830]
10. Lactic acid

11. Citric acid

12. Monosodium glutamate (MSG) and other amino acids

13. Enzymes (protease, amylase, isoamylase, stable isomerase, glucose oxidase, tannase, etc.)

14. Yeasts (pressed yeast, active dry yeast, brewers yeast, wine yeast, medicinal yeast, livestock feed yeast)

15. Alcohol industry

16. Other (Yeast for brewing wine or fermenting glutinous rice, fuqu [1133 2575], yeast for making hard liquor)

Eight, Food Storage Industry

For example:

1. Canned storage (canned goods)
2. Dry storage
3. Cold storage
4. Warehouse storage
5. Cellar storage
6. Pickling
7. Other

Ninth, Beverages and Cold Drinks Industry

For example:

1. Running water
2. Mineral water
3. Soda water
4. Other cold beverages (such as Coca Cola, malt or milk extract, sour plum concentrate, etc.)

Tenth, Vitamin Industry, Special Dietary Foods Industry

For example:

1. All kinds of eatable vitamins (multi-vitamin pills, single vitamin pills)

2. Baby foods
3. Old people's foods
4. Athlete's foods
5. Curative foods
6. Spaceflight foods
7. Convenience foods
8. Other

Appendix:

Problems of Specialized Composition of Fermentation Industry

The technical characteristics of the fermentation industry most readily reflect the level of modern scientific advance. For the mort part, they are chemical products and light industrial products obtained from fermentation carried out by micro-organisms.

The fermentation industry is best delineated in terms of the products of each industry.

Fermentation industry products may be generally divided into the following 10 categories:

1. Alcoholic beverages, alcohols, and solvents

Alcoholic beverages (including beer, yellow rice or millet wine, white spirits, cordials, wines, brandies, whiskeys, vodka, and various medicinal wines)

Ethanol (alcohol), butanol, acetone, glycerine, fusel oil.

2. Organic acids

Citric acid, lactic acid, acetic acid, tartaric acid (a by-product of wineries), fumaric acid, itaconic acid, gluconic acid.

3. Yeasts

Bread yeast, dietary yeast, medicinal yeast, livestock feed yeast

4. Amino acids

Monosodium glutamate (MSG), lysine, proteic acid, tryptophan, and other amino acids.

5. Antibiotics

Penicillin, aureomycin, streptomycin, neomycin, tetracycline, griseofulvin, bacitracin, tyrothricin.

6. Vitamins and growth hormones

L-ascorbic acid, cyano-cobalamin (vitamin B-12), riboflavin, biotin.

7. Enzymes

Takadiastase, amylase, protease, cellulose ester, pectinase, glucose oxidase, isomylase, stable isomerase, tannase, etc.

8. Polymers

Dextran (polydextran) and other polysaccharides

9. Fermented foods

Soy sauce, soy paste, beancurd milk, cheese, hot pickled mustard tuber [preserved Sichuan vegetable], pickled vegetables, etc.

10. Other

Diacetyl, dihydroxyacetone, anti-filtrable virus vaccine, ephedrine, ergotine, steroids, ribonucleotides.

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PROVINCIAL NOTICE ISSUED ON 'THREE SUMMER JOBS'

Lanzhou GANSU RIBAO in Chinese 13 Jun 82 p 1

[Article: "Provincial People's Government Issues Notice Requiring All Jurisdictions to Base Themselves on Prevention of and Combat Against Calamaties To Do the 'Three Summer Jobs' of Production Well"]

[Text] On 10 June the provincial people's government issued a notice requiring all jurisdictions to base themselves on the prevention of and combat against calamities to do the "three summer jobs" [planting, harvesting, and field management] well.

The notice said that now that "grain in ear" [around 6 June] has passed, the busy season of the "three summer jobs" has progressed steadily from south to north throughout the province. Meteorology departments have forecast uneven distribution of rainfall throughout the province with the possibility of summer drought between July and September. Some places may suffer torrential rain or hailstone disasters, and mountain floods may be more numerous than in former years. All jurisdictions should base themselves on prevention of and combat against disasters to do a solid job of summer harvesting, summer planting, summer management and hot weather cultivation of the fields.

The provincial government has recommended that all activities in summer production center around the drought, waterlogging, hailstone, flood, crop disease and insect pest disasters that have already occurred or may occur. They should make multiple preparations and establish several lines of defense ideologically, organizationally, and materially to produce results link by link. Vigorous measures should be taken to defend against possible summer drought. Repair of ditches and the maintenance and repair of irrigation facilities and rural electric power lines should be taken firmly in hand, and fuel for machinery made ready so as to be able to combat drought when it occurs. Irrigation areas are to institute centralized management and handle matters strictly in accordance with regulations, make equitable use of water and conserve use of water so as to be able to irrigate more fields better. In addition to actively fighting against drought, conscientious work to protect against floods and high water also has to be done. Wheat, oil-bearing crops, and beans in summer fields should be harvested just as soon as they are ripe and hauled away as they are harvested to guard against fire, theft or molding in rainy and overcast weather, and to assure their safety. The masses are to be stimulated and organized to select and retain seeds. Places in which the sowing of summer crops did not fulfill plan, or places in which the harvest has not been good are to do everything possible, depending on local realities, to expand the area sown for the fall and multiple cropping plans. Where it is too late to sow grain, urgent action should be taken to plant vegetables, grass, green manure, planting them early, in large quantities, and well.

All out efforts are to be made in working and managing late ripening summer crops and fall crops, making sure than "until a bumper harvest is in hand, there will be no slackening of care." Account should be taken of the growth situation of different crops to inspect seedlings promptly and add seedlings where required, to hoe out weeds and loosen the earth, to provide topdressings of fertilizer, to irrigate at the right times, to control diseases and insect pests and such jobs as a means of upgrading the "three categories of seedlings," to prevent green drying and lodging of wheat, to increase the per thousand grain weight of wheat, and to improve quantity and quality of wheat. Opportunity should be seized to do a good job of summer plowing. "Summer plowing is like burning oil" has been a tradition in Gansu Province. Successful measures for combating drought to increase yields should be given attention everywhere, early preparations being made, and deep, careful, and much plowing done. Where conditions permit, floodwaters should be diverted to flow over the land.

The notice pointed out that responsibilities are great and time is short for doing the "three summer jobs." All levels of the people's government and all departments concerned, particularly leaders in prefectures and counties are to treat it as a central task that comes before all others in rural villages at the present time. Leaders are to go down into the frontlines to solve problems promptly. Commune and brigade cadres are to stand fast at their posts. Cadres and farm technicians are to be organized into work teams to give on the spot direction to peasants and to explain technical farming knowledge in terms of actual situations being faced. Commercial, supply and marketing, industrial and transportation, materials, and banking units are to actively organize the allocation and transportation of materials for the "three summer jobs," and to do a good job in the supply of chemical fertilizers, fuels, electric power for agricultural use, farm implements, and fine varieties, and the issuance of loans for agricultural use.

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INCREASED PRODUCTION OF AQUATIC PRODUCTS STRESSED

Policy Measures

Guangzhou NANFANG RIBAO in Chinese 17 Jun 82 pp 1, 2

[Text] The Guangdong Provincial People's Government recently convened a provincial aquatic products breeding work conference at Foshan City to transmit and put into effect the spirit of the national freshwater fishing industry work conference, to summarize and exchange experiences in the province's aquatic products breeding work, and to study and enact policies and regulations on hastening freshwater breeding and the revival and development of marine breeding.

Guangdong Province CCP Committee member and director of the Provincial Agricultural Commission, Du Ruizhi [2629 3843 5347], presided over the conference and made a summarization. Guangdong Provincial Governor Liu Tianfu [0491 3944 1133] gave a speech at the conference.

Participants in the conference included deputy commissioners (or deputy mayors) of all prefectures (or municipalities) and comrades in charge at the Agricultural Office, the Aquatic Products Bureau, and the Hydroelectric Bureau, as well as deputy county heads (or deputy mayors) of each county (or municipality), and representatives of departments concerned under direct provincial jurisdiction. The conference was divided into two phases for discussion of freshwater breeding and marine breeding.

The conference agreed that since the Third Plenary Session of the 11th Party Central Committee, Guangdong Province has won remarkable achievements in aquatic products breeding work from diligent implementation of the CCP Central Committee's and the provincial government's "Decisions on Vigorous Development of the Aquatic Products Breeding Industry." In the course of 3 years the freshwater fishing industry has taken three giant strides. Between 1979 and 1981, it averaged an annual increase in production of more than 18,600 tons, an annual incremental increase of 8.8 percent. Within 3 years marine breeding area was increased by 53 percent and output rose fairly rapidly once again, increasing by 18 percent over 1979. However, current speed of development of the aquatic products breeding industry is still a long way from meeting the needs of the people's livelihood, and falls far short of the province's superior natural conditions. Continued efforts must be made. Acting on the basis of the annual freshwater fish output of 4 to 5 million tons, which is the target to be achieved by the end of the 1980's put forward by the CCP Central Committee, in combination with actualities in the province, the conference formulated a plan for the province's development of aquatic products breeding as follows: achievement by 1990 of an annual output of 510,000 tons of freshwater fish, an annual incremental increase of 8.9 percent, and an annual output of 16,000 tons of marine bred aquatic products by 1985, more than double the output of 1980.

During the conference, delegates focused attention on the problem of how to hasten the breeding of aquatic products, diligently summarized and exchanged advanced experiences, and acknowledged that the future freshwater fishing industry development program should mobilize all forces, make use of all kinds of water surfaces, strive to increase quantities and quality, and institute a combination of breeding, increased breeding, raising, and catching, with breeding being paramount. During the short run, major emphasis should be given the crucially important pond raising of fish with development and use of mountain ponds, reservoirs, and rivers for the raising of fish, and the promotion of the raising of fish in ricefields for gradual increased breeding of river resources, with support to commune members in the use of scattered water surfaces for the development of the household raising of fish to make full use of the potential of large and small water surface resources. The conference emphasized, in the development of aquatic product breeding industries, the need for adherence to the promotion and perfection of various forms of specialized contracting responsibility systems, to permit and protect individuals, organization, industrial plants, entreprenurial units and social groups in individual or collective use of funds under centralized planning for jointly managed breeding enterprises in vigorous development of large and medium size city and suburban raising of fish. The conference emphasized mobilization and organization of manpower, material, and financial resources from every quarter of society to solve the problem of funds for development and use of resources. In addition, serious attention should be given promotion of multiple measures for the raising of fish that interrelate the fishing industry, livestock raising, and agriculture, to emulating Gaoyao County's all out efforts with various forms of joint operations for the development of the fishing industry and the livestock industry, as well as Doumen, Sanshui, and Xinhui counties' experiences in combining improvement of farmland with the raising of fish, the raising of livestock and poultry, and farming to build a fine ecocycle system, the better to obtain benefits from multiple operations.

The conference noted that under present circumstances wherein inshore resources have been damaged while the broad marine coastal shallows have not yet been put to use, the fishing industry in all places must resolutely overcome tendencies toward, "emphasizing catching and slighting breeding," and implement a program of simultaneous emphasis on catching and breeding for active development of marine breeding. It is necessary, first of all, to implement and consolidate, with all possible speed, utilization rights to marine coastal shallows, to safeguard a stable production order, to put to use with all possible speed shallows not yet in use and, along with an expansion of the area, to take a path of development that links the long range and the short range, using the short range to nurture the long range, and going from extensive to intensive raising of aquatic products. Hastening development of marine shallows and use of coastal fishing grounds requires further emancipation of the mentality and liberalization of policies. In addition to state owned or collective operations or joint operations, a free hand might be given to various forms such as use of individual funds or use of group funds in contracting of operations as a means of stirring the enthusiasm of all parties. In existing state owned breeding grounds, a program must be put in place of "one industry primarily, with economic diversification and multiple use," efforts made to increase economic benefits and to make the most of the role of demonstrations by mainstay cadres, giving support to communes, brigades and commune members in skills, funds, and the breeding of fry [or larvae] so that marine breeding will be undertaken by the state, collectives, and individuals together.

Commentary on Spurring Development

Guangzhou NANFANG RIBAO in Chinese 17 Jun 82 p 1

[Text] The Guangdong Provincial People's Government recently convened a provincial work conference on aquatic products breeding, which acted on the basis of national plans and concrete conditions existing within the province to formulate guidelines for the province during the 1980's including an annual 8.9 percent incremental increase in freshwater aquatic products output, and a doubling within 5 years of marine breeding output. It also put forward corresponding programs, policies, and measures. This plan both meets the needs of the country and the people, and is also founded on favorable objective conditions. It is workable and can be achieved with effort. It is hoped that all levels of party and government organization will conscientiously carry it into effect.

Development of an aquatic products breeding industry relates to the large issues of full and rational use of natural resources, to in breadth and in depth progress in agricultural production, and to bringing into being a benign agricultural ecocycle. Modern large scale agriculture consists of the all around development of multiple activities in farming, forestry, animal husbandry, sideline occupations, and fisheries. Only by putting mountains, waters, and fields to use can great increases in commodity production be realized to satisfy market needs and to make sensible changes in people's diet. Additionally, only in this way can the rural economy flourish and outstanding increases take place in collective and individual earnings so that the broad masses of peasants can become propserous with all possible speed. It is from the strategic height of building and developing large scale modern agriculture that we must understand the importance of accelerated development of aquatic product enterprises, and give the same serious attention to utilization of every tract of water surfaces that we give the farming of every mu of cultivated land.

Guangdong Province has a very long coastline, and rivers traverse the land. More than 10 million mu of water surfaces are available for use providing a vast area for development of aquatic products breeding. However, practice has demonstrated that if these water surfaces are to be developed rapidly for use and outputs of fish increased, sole reliance on state-owned fisheries and specialized communes and brigades will not work. The masses in their millions must be aroused and relied upon, with state-owned enterprises, collectives, and individuals going forward together to carry out a guiding mentality of "mobilization of forces in every quarter," and arousing positive elements everywhere. This is to say that while operating state-owned aquatic products breeding grounds, communes, brigades, and commune member households have to be aroused for active development of the aquatic products breeding industry. It is necessary, as well, to encourage government organizations, groups, industrial enterprises and such social forces to act on the principles of voluntary participation and mutual benefit and equitable division of benefits, those having money investing money, those having materials investing materials, and those having skills investing skills, pooling the wisdom and efforts of everyone to join in aquatic products breeding enterprises. Only in this way will it be possible to win success in fairly rapidly development of the province's aquatic products enterprises.

In order to truly carry into effect a guiding mentality of "mobilization of forces in all quarters" for development of aquatic products endeavors, it is necessary to propagandize with great fanfare the necessity and the correctness of so doing so that the broad masses of peasants and elements in society concerned will give active support. It must be clearly announced that individuals, government organizations, industrial plants, enterprises, entreprenurial units and social groups may, under centralized management and after going through legal procedures, use their own funds collective funds for operations, or carry out joint operation of fishing industries, the rights of both investors and operators being guaranteed by law. During recent years in some places in Guangdong Province instances of economic units with different systems of ownership using diverse forms of joint development and operation of aquatic product hatching industries have taken place (such as industrial plants and production teams, state-owned commercial units and communes or brigades, and government organizations or groups and farms). These have achieved very good economic results, have increased commune, brigade, and farm earnings, and have improved supply of nonstaple foods to industrial plants and government organizations and groups. Otherwise unused water surfaces have also been put to use. Such methods are very inspiring and should be encouraged and given support.

For various historical reasons, utilization rights for most of the marine shallows of Guangdong Province have never been clearly defined, with the result that disputes can easily occur that seriously impair production order and are bad for arousal of enthusiasm for production of all quarters. Consequently, active and dependable implementation of utilization rights for these shallows is a fundamental task, and also a priority one. It is hoped that all jurisdictions will place it on their daily agenda of important things to do and organize forces for commune by commune and brigade by brigade implementation, seeking to complete the task within 1 or 2 years in accordance with plans drawn by this provincial work conference on aquatic products breeding. Predictably places that most quickly institute utilization rights to shallows in accordance with policies will be the ones most quickly to see the dawn of an aquatic products breeding industry.

Fishpond output in Guangdong Province is very unbalanced. Prefectures with fairly high yields get more than 400 jin per mu; low yield prefectures get only 100 jin or so. Such a difference domonstrates clearly that promotion of advanced fish raising techniques and administrative and management methods, and encouragement of scientific raising of fish are important ways in which to increase fish output fairly rapidly. Efforts of this kind hold great promise, and we must take account of realities in each prefecture, and come to grips with the major contradictions in them. Right now one-third of the province's fish ponds are shallow (a water depth of less than 1 meter), leaky, or small. We must improve them little by little over a period of time so that they become consistently high producing ponds. We must take account of the decline of certain fish varieties and adapt general methods to local situations for the promotion of new varieties (such as wealth and longlife fish [4395 1108 7625], and actively conduct experiments with new kinds of fry [or larvae]. Supplies of large quantities of good quality mixed feeds are a prerequisite for large scale breeding of aquatic products, and party and government leadership organizations should organize departments concerned to study and produce such feeds. For many years many places in the province have practiced a combination of fishing raising and hog raising, the raising of chickens, ducks, and geese, and the growing of mulberry and sugarcane for continuous production, which has helped maintain agriculture's ecological balance and has provided feed, making the aquatic products breeding industry and other breeding industries mutually supportive. Such scientific methods should be spread through the adaptation of general methods to local situations.

In short, we have to mobilize forces in all quarters, make full use of all kinds of water surfaces, promote scientific techniques, encourage multiple operations, and seed economic effectiveness. In this way we will definitely be able to make larger and more rapid strides in development of the province's aquatic products breeding industry in accordance with requirements of central authorities.

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COUNTY SUMMER WHEAT OUTPUT UP BY 50 PERCENT

Shijiazhuang HEBEI RIBAO in Chinese 5 Jul 82 p 1

[Article: "Jize County Total Summer Output Up 50 Percent Over Last Year. Implementation of Policies Provides Reassurrance and Encourages Efforts; Scientific Farming Advances Increased Yields"]

[Text] Jize County, whose wheat production has always been very low, last year produced a total of 60 million jin from 192,000 mu, a better than 50 percent increase over last year, yields per unit of area reaching an all-time high. Every one of the 10 communes in the county had increased yields.

One major experience enabling Jize County to reap a bumper harvest this year despite numerous disasters was that the County CCP Committee and government took firmly in hand the consolidation and perfection of agricultural production responsibility systems, clearly publicizing no change in the already established various forms of production systems. The broad masses of commune members ceased to worry and courageously contributed money for the purchase of chemical fertilizer, machines, and tools for the development of productivity and to provide material conditions for increases in wheat yields. In addition, this county promoted fine varieties, increased fertilization with phosphate, and watering to combat drought better than in former years. The growing of Taiyi, Taiwu, Pinsanjiu, and Jimai Ershisan fine wheat varieties, which are suited to local soil conditions, was spread virtually everywhere in the county, and fertilization with phosphate was increased from the former 17 to 60 jin per mu, the soil's serious phosphate deficiency thereby being corrected. By sinking more pump wells and refitting deep well pumps, the irrigated area was enlarged by 30,000 mu making possible an increase by one or two waterings and as many as nine during the wheat's growing season.

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PREFECTURE ORGANIZES FOR BUMPER GRAIN HARVEST

Shijiazhuang HEBEI RIBAO in Chinese 17 Jul 82 p 1

[Article: "Hengshui Prefecture Studies Formulation of Measures to Win Bumper Fall Harvest. Centers on Perfection of Responsibility Systems to Solve Problems in Production Relationships"]

[Text] Between 3 and 6 July, the Hengshui Prefecture CCP Committee and government administrative offices convened a conference of commune secretaries from throughout the prefecture. After summarizing experiences in harvesting a bumper summer crop, they studied and acted on the problem of how to redouble efforts to win an all around bumper fall harvest.

The conference agreed that in order to win a bumper fall harvest, attention will have to center on further improvements in the production responsibility system for the fall to make full use of the enthusiasm of collectives and commune members. First, summer contract agreements will have to be resolutely honored while at the same time fall contract agreements will have to be signed. There can be no shillyshallying. Second is doing a further good job management responsibility systems for pump wells, drainage and irrigation machines, and major water conservancy facilities. One-fourth of the prefecture still has no responsibility system for pump wells, and this is where the potential for combat against disaster to win a bumper harvest lies. No matter the form of responsibility system practiced, wells and machines are to be under the centralized management of production brigades or production teams. Third is establishment of an insect eradication responsibility system for centralized formulation of pesticides, for taking unified action at a given time, and for household by household elimination. Fourth is doing a good job of responsibility systems for drainage of waterlogging and prevention of floods.

While further perfecting various kinds of responsibility systems, this prefecture has also emphasized attention to key fields and key crops. The prefecture has more than 3 million mu of irrigated land for which the increased yield potential is very great. These are key fields for the winning of an all around bumper fall harvest. The prefecture has more than 5 million mu of fall grain crops, more than 3 million mu of which is corn. These are key fall grain crops for which the increased yield potential is very great. In this connection, the prefecture decided to give strict attention to key fields, appointing people responsible for them at every level in the institution of a system of individual responsibility. All communes have adoptnd a system whereby leading members of its CCP Committee are responsibility for certain tracts, whereby regular cadres are responsible for certain villages, whereby production brigade cadres are responsible for certain production teams, and whereby production team cadres are responsible for certain households in a level by level distribution of responsibility. Responsibility for key fields and key crops is apportioned to individuals, and is fixed through the use of rewards and penalties, and the use of agreements. All communes and brigades are to widerangingly arouse the masses to formulate measures for increasing yields of key fields and key crops, to concentrate water and manure, to give painstaking care, to do scientific farming, and to use every available means to win high yields. In addition, key fields are to be used for demonstration purposes to spur on the farming of ordinary fields for all around increases in yields. This prefecture has also made one of its major actions assistance to hardship production teams and hardship households in doing production to win a bumper fall harvest. It has required CCP committees and governments at all levels to place on their daily agendas help to the poor and assistance to those suffering hardships, with regular study, and persons designated responsible. Communes have directed attention to hardship production teams, and cadres, party members, and members of the Communist Youth League have been assigned to look after the families of revolutionary martyrs and servicemen and hardship households with many members but few workers or those who do not understand techniques and cannot make a living, helping them formulate measures to increase yields, teaching them farming techniques, and giving them needed support with workers, fertilizer, pesticides, and funds to solve various real difficulties.

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PREFECTURE'S EFFORTS IN FACE OF MULTIPLE NATURAL DISASTERS OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 16 Jul 82 p 1

[Article: "Shijiazhuang Prefecture Strives to Win Bumper Fall Harvest in Agriculture. No Dejection When Disasters Strike, Measures Keeping Apace"]

[Text] In view of various natural disasters that have taken place, the Shijiazhuang Prefecture CCP Committee and government administrative offices has undertaken indoctrination of the broad masses of cadres and people in the prefecture on "man can conquer nature" to stir the people to stubborn struggle to conquer disasters and win a bumper fall harvest in agriculture.

During the first half of this year, agricultural production in Shijiazhuang Prefecture has sustained serious natural disasters including low temperatures, drought, hot dry winds, diseases and insect pests, and hailstones, which have reduced summer grain yields and have occasioned quite a few hardships for the winning of a bumper fall harvest. The Prefecture CCP Committee and government administrative offices promptly convened a prefecture wide agricultural work conference to analyze the disaster situation and to summarize the lessons of experience over the years in combating disasters to win bumper harvests. They mobilized people throughout the prefecture to resolutely fight to victory in the struggle against disasters to win a bumper harvest. Comrades attending the conference diligently analyzed the various favorable factors: First, as a result of further perfection of various forms of responsibility systems, the sentiments of cadres and masses are stable and zeal for combating disasters to win a fall harvest is very high. Second, for the past several years fall crop output has tended to increase steadily, and both cadres and the masses have accumulated experiences in winning a bumper fall harvest. Third, autumn grain production for the prefecture as a whole is very unbalanced and a great potential exists. Fourth a good basis exists for production this fall: the wheat has ripened early; fall sowing of grain has been 6 or 7 days earlier than in most years; and material conditions are also better than in former years. Despite the large area of hailstone damage, the time of the disaster was fairly early, so the situation can be reversed with effort, and confidence increased in being able to win a bumper fall harvest through hard work. After the conference, each county convened three cadre conferences in which a look back at the past and summarization of the lessons of experience were used as methods to stir the fighting will of cadres and the masses.

Simultaneous with indoctrination of the people of the entire prefecture in "man can conquer nature," the CCP Committee and government administrative offices proposed four key measures for winning a bumper fall harvest as follows:

1. Attention to medium and low yield areas for even increases in yields. Five counties in the prefecture including Zhengding and Wuji have grain fields with fall yields of 500 jin per mu, but nine counties produce yields that are lower that the prefecture average yields per mu, the lowest county having yields of only 283 jin per mu. The Prefecture CCP Committee and government administrative offices have given practical assistance to these medium and low yield counties in studying the formulation of measures to increase yields, and to catch up with and overtake advanced levels. They are working to obtain yields of 550 jin or more per mu from the prefecture's 3.5 million mu of cornfields for an output totaling 2 billion jin.

2. Spurring high yields from areas in which disasters were slight, using bumper production to offset lean production. In Lioncheng and Huolu counties, natural disasters were relatively light and the Prefecture CCP Committee has called upon them to increase their grain production. Now these counties are taking effective measures in an effort to produce more, carrying the responsibility for the whole prefecture.

3. Strict attention to production of grains other than wheat and rice, using every available means to grow and harvest more. Particular attention has been devoted to potatoes and millet as key crops. The "10 besides" [beside villages, streams, fields, houses, roads, etc.], odd bits of land, and every place that can b sown have been fully planted in an effort to increase the harvest somewhat.

4. Economic diversification centering on cotton has been launched. The prefecture's cotton was fairly hard hit, and each county has taken the measures appropriate to different kinds of cottonfields. Where it had to be destroyed, it was destroyed; where it should be intercropped, it was intercropped, and what remained was given increased care in an effort to insure that there would be no reduction in total cotton output for the prefecture as a whole. In addition, everywhere both the collective and individual commune members worked together using every available resource to expand production avenues and to develop economic diversification that would produce fast results and large benefits in an effort to realize a 100 million yuan increase over last year in total earnings from agriculture, and average per capita earnings of 190 yuan (the collective distributing 130 yuan and income from household sideline occupations amounting to 60 yuan).

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SUGGESTIONS MADE ON SOLVING GRAIN PRODUCTION PROBLEM

Shijiazhuang HEBEI RIBAO in Chinese 8 Jul 82 p 1

[Article: "How Can the Problem of 'Two Lates and Two Reductions' in Grain Production Be Solved. Three Science and Technology Personnel in Shijiazhuang Prefecture Provide Five Suggestions Following Investigation and Study"]

[Text] Science and technology personnel, Li Yashen [2621 0068 3234], Yang Fuchuan [2799 1381 1557], and Wei Xidao [7614 0823 6670], from the Shijiazhuang Prefecture Science and Technology Information Institute conducted investigation and study in seven counties including Zhengding, Luancheng, Pingshan, and Yuanshi and explored problems with "two lates and two reductions" in the prefecture's two crop grain production system after which they proposed five ways in which to solve the problems. Shijiazhuang Prefecture government administrative offices adopted their suggestions and notified the entire prefecture, and now some counties and communes have begun to take action to solve these problems.

Shijiazhuang Prefecture's multiple grain sowing index is 186 percent. Throughout the prefecture mostly wheat is grown winter and spring, and corn grown summer and fall. Tremendous growth has taken place in grain output only to have problems with "two lates and two reductions" occur. Since the quantity of heat resources required and growing of multiply sown crops are not mutually compatible, low temperatures cause the corn to delay development and ripen late, and during the late growth stage low temperatures cause cold damage. The growing season is extended by 5 or 6 days, and the ripening period for corn in open fields is delayed from late September until early October. Low temperatures are bad for filling out and ripening; the per thousand kernel rate declines, and yields are low. Late ripening of the corn leads to late sowing of the wheat and a delay in the growing season with low yields. In addition, problems exist in a not completely rational farming system, corn varieties requiring a long growing season, and slapdash care of crops.

Following investigation, the three science and technology personnel made five suggestions for solving the problem of "two lates and two reductions." One was adherence to a farming system featuring intercropping. Intercropping is able to make better use of light and heat resources than the sowing of two entirely separate crops, and resistance to disaster is strong. Since the growing season is long, intermediate ripening or intermediate and early ripening varieties with great potential for increased yields may be grown to stand a better chance of getting increased yields. Second is adaptation of general methods to local situations to do a good job of regionalizing the distribution of varieties in the farming system. On the basis of diverse climatic conditions resulting from differences in elevation above sea level, Shijiazhuang Prefecture's farming system may be divided into four major zones: The plain at the eastern foothills of the Taihang mountains and parts of the gently sloped hill region, which is a zone for two crops per year of intercropped intermediate ripening varieties; the Taihang Range frontal mountains and hill zone, which is a zone for two crops per year of intercropped early ripening varieties; the cold zone in the mid-section of the Taihang Mountains, which is a zone for the growing of two intercropped crops per year; the high frigid mountain zone of the western Taihang Mountains, which is a one crop per year zone. Distribution of varieties in each area must fit in with local natural conditions. Third is readjustment of the sowing season, earlier sowing being done so that summer corn may be harvested early and in good time to assure the sowing in good time of winter wheat. Fourth is a reduction in the waste of farming time. At the present time, time wasted on the three autumn jobs [harvesting, plowing, and sowing] in Shijiazhuang from the time that the summer corn is harvested until the winter wheat is sown) is generally 11 to 17 days for a waste of between 200 and 300 degrees Centigrade of cumulative heat, which is a major factor affecting the on-time sowing of wheat, and the growing of sturdy seedlings before the onset of winter. Shortening of the waste of farming time requires active promotion of direct return to the fields of stalks and stems to save the work time required to haul the stalks away, the composting of coarse manure, and the reverse hauling of manure to the fields. This would both help accelerate the fall harvest and fall sowing, and would help nurture soil fertility to increase crop yields. In addition, it is necessary to make full use of and bring into play the role of farm machines, to strengthen management, and to promote responsibility systems to gain time for on-time early sowing. Fifth is early care during the seeding stage to promote early ripening. When corn is intercropped with wheat, during the early period when both are growing, the young corn seedlings are yellow and weak and they lack water and fertilizer. After the wheat has been harvested, temperatures are high and the air is dry; a great amount of evaporation takes place and the soil is leathery, so the importance of early care is greater. If watering and topdressings of fertilizer are not promptly given, the debris from the wheat crop cleared away, and thinning and weeding done, not only will there be no early harvest, but seedlings may die from parching or may not develop.

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GOOD HARVEST REPORTED IN BAODING PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Baoding Prefecture Wins Bumper Summer Harvest in a Year of Many Disasters. Summer Grain Growing Area Down by 570,000 Mu From Last Year but Total Output up by 100 Million Jin"]

[Text] Despite multiple natural disasters including drought, hot dry winds, and aphids, Baoding Prefecture reaped a fairly good harvest this year from its 5.92 million mu of summer grain crops. Though the area sown was down 570,000 mu from last year, total output amounted to about 15.9 billion jin, up by about 100 million jin from last year.

The main reason for Baoding Prefecture's fairly good summer grain harvest this year was further arousal of the enthusiasm of the broad masses of cadres and people as a result of the reorganization of grassroots leadership teams and the perfection of responsibility systems. Since the lunar new year, prefecture and county leaders have taken the lead in the transfer of large groups of cadres to the grassroots to do a solid job of solving problems of paralysis and semi-paralysis in the leadership teams of more than 700 production brigades and more than 9,600 production teams, and to re-collect collectively owned property that had been dismantled and dispersed in more than 3,100 production teams. In production teams where no withholdings were made last year, withholdings were instituted, and pump well management and irrigation responsibility systems were promoted pretty much everywhere. In addition, leaders and technical departments at all levels used all available means to spread scientific techniques to thousands upon thousands of households. In the prefecture's 23 counties (or municipalities), 522 technical cadres instituted responsibility systems wherein technology was linked to output, contracting the farming of a land area of more than 170,000 mu. The prefecture and counties used various ways in which to give on the job training to 146,500 farm technical personnel. They also prepared, printed, and distributed large quantities of technical data in vigorous promotion of scientific wheat care. Many counties and communes used the study of advanced techniques to change the method of fertilization from "many feedings a little at a time" to "heavy fertilization with greening up fertilizer." More and more people also became familiar with phosphate fertilizer, and this year the wheatfield area of the prefecture fertilized with phosphate fertilizer amounted to 3.64 million mu, a 640,000 mu increase over last year, a total of 152,000 tons of phosphate fertilizer being spread, more than 30,000 tons more than last year. All trades and industries vigorously supported the fight against drought to water the wheat. During this year's drought when supplies of electric power and fuel were inadequate, watering was done no fewer times than last year.

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PROVINCIAL NOTICE ON PESTICIDE USE ISSUED

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Provincial Government Issues Notice Requiring All Jurisdictions To Intensify Plant Protection Work and Guard Against Pesticide Poisoning"]

[Text] Recently the provincial government issued a notice titled, "Intensify Plant Protection Work and Guard Against Pesticide Poisoning." The notice required all jurisdictions to do a genuinely good job of establishing grass-roots level plant protection organizations and plant protection technical corps, to fully staff and to strengthen commune stations for the promotion of techniques. It required production brigades and production teams to have peasant plant protection personnel, encouraging them to sign agreements with production teams or commune member households for the prevention and control of insect pests and diseases, and to satisfactorily solve problems in their remuneration.

The notice pointed out the need to actively develop plant protection companies and to promote vigorously agreements for prevention and control. Plant protection companies should use agreements to contract disease and insect pest prevention and control tasks, technical personnel being responsible for technical guidance, production units being responsible for the implementation of prevention and control measures, both parties to agreements bearing individual economic responsibility to improve results in disease and insect pest prevention and control. County plant protection companies should both direct plant protection work throughout the county and should make contractual agreements for prevention and control.

Pesticides are to be used scientifically and safely. No matter the form of production responsibility system practiced, prevention and control of diseases and insect pests is to be centrally organized. The system of organization should proceed from realities and general methods adopted to specific situations in a seeking after genuine results. Either the production brigade or the production team may be the unit designated responsible for centralized inspection of insects, centralized purchases of pesticides, centralized management of pesticides, centralized mixing of pesticides, and centralized organization of prevention and control, individual households paying prevention and control fees on the basis of their area of prevention and control. Alternatively 35 households or a few score households can band together freely under the leadership of a technical demonstration household for cooperative prevention and control. The notice also required agricultural, supply and marketing, medical and health, propaganda, educational, and cultural departments to exert joint efforts and to adopt various methods for broadly and deeply publicizing knowledge about scientific and safe use of pesticides, to give technical training, and to increase the technical levels of the masses of commune members as quickly as possible in the use of pesticides for the prevention and control of diseases and insect pests.

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HOEING, FERTILIZING UNDER WAY IN ZHANGJIAKOU PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Zhangjiakou Prefecture Takes Firm Grip on Key Measures in an Effort To Provide Good Summer Crop Care"]

[Text] The broad masses in Zhangjiakou Prefecture have responded to the call from the Prefecture CCP Committee and government administrative offices for "an all-time high overfulfillment of agricultural production" launching a 100-day campaign of summer crop care in which the pace and quality of summer crop cultivation and fertilization has been better than in previous years.

After the Zhangjiakou Prefecture CCP Committee and government administrative offices issued an open letter on the prefecture's having "an all-time high overfulfillment of agricultural production," all levels formulated measures one after another, took firm hold of key areas, and worked as one to wage a 100 days war, with a stirring situation of "three manys" appearing in summer crop care. One was many workforces on the job, the prefecture fielding more than 720,000 people for summer crop care, making it an all-time high year for workforces on the job. Second was many working hours with many commune member households going into the fields early and finishing late, taking their noon meal in the fields, and working 14 or 15 hours daily. Third was many farm tasks done. As of 25 June, the prefecture had cultivated 9,214,000 mu of seedlings, 2,136,000 mu more than last year. So far 2,332,000 mu have been cultivated twice, 1,054,000 mu more than during the same period last year. Many contracting households have cultivated four or five times.

Since it has rained a great deal lately and the seedlings are growing rapidly, this prefecture has taken a firm grip on topdressings of fertilizer as a key measure for increasing yields. Zhuolu County has called for early topdressings, heavy topdressings, deep topdressings, and general topdressings of fertilizer, and has allocated 3 million yuan in loans for fertilizer. The county has already applied topdressings to more than 260,000 mu. A first fertilization has been given to 81 percent of the corn, gaoliang, and wheat crops, and 110,000 mu have been fertilized twice. The Xuanhua County Bank of Agriculture and credit cooperative have transferred the handling of loans for the purchase of chemical fertilizer from commune credit cooperatives to production brigade credit cooperatives. The county's 28 grassroots level supply and marketing cooperatives retail chemical fertilizer and are on duty day and night to take care of all comers. All plains conties have stirred the masses to fertilize with sheep, goat, and chicken manure. Today the area of the prefecture that has been fertilized once amounts to 650,000 mu, exceeding the same period last year by 73 percent. The area fertilized twice amounts to 138,000 mu.

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PREFECTURE FARM MACHINERY MANAGEMENT IMPROVEMENTS REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 6 Jul 82 p 2

[Article: "Centralized Production, Sale, and Management of Farm Machinery Products"]

[Text] Editorial Department: Farm mechanization has developed very rapidly in Shijiazhuang Prefecture during the past several years. One well per mu fully equipped with pumps and electricity, more than 80 percent of the wheat growing area sown by machine, and more than 40 percent harvested by machine have been fairly balanced with little overstocking in warehouses. A search for the reason reveals that it has resulted principally from promotion of a centralized system throughout the prefecture in the production, sales, and management of farm machinery. Formerly farm machinery production was the province of the Prefecture Machinery Bureau; sales were the province of the Farm Machinery Company, and administration, management, use and promotion were the province of the Farm Machinery Management Bureau--a division among the industrial, commercial, and agricultural systems. Every year when it was time to lay plans during the fourth quarter for the following year's production, though discussions were held among all three, each took a stand on his own position, product plans could not be readjusted on time, and when problems were encountered there was mutual squabbling to the serious detriment of the development of farm machinery. Beginning in 1976, the prefecture merged the Farm Machinery Management Bureau and the Machinery Bureau into the Machine Industry Bureau, and the Farm Machine Company came under the direction of the Machinery Bureau, the production, sales, management and use of farm machines thereby being unified for fine results.

First, it was possibly to make centralized production plans. The Machinery Bureau organized personnel in advance to go down into the grassroots levels to conduct market investigation and forecasting. Next the production planning section produced production plans, which the Bureau leaders discussed and decided on in a meeting of units concerned.

Second, production and sales were organically linked. In 1980 the Prefecture CCP Committee made 35 percent of the prefecture harvest wheat by machine, but wheat harvesting machines did not sell rapidly. The Machinery Bureau CCP Committee, thereupon, convened a meeting of units concerned to study the matter and centrally transferred personnel from the Farm Machinery Company, the Farm Machinery Section, the Drainage and Irrigation Section, and the Production Section to sell the products. The Bureau director directed his main energies to grassroots work. In this way, efforts were made equally by those in charge of sales and those in charge of production, and suddenly 3,500 sales occurred.

Third was elimination of contention between producers and users. Last year at wheat harvest time when Farm Machinery Section comrades promoted experimental use of wheat harvesters in rural villages, it was found that the auxiliary paddle-wheel on the special-shaped auxilliary plate was at the wrong angle, with the result that the harvested wheat was somewhat blocked and did not come out in a regular flow. They worked with the operator to try to straighten out the problem, and immediately reported the problem to the producing factory.

Fourth was timely readjustment of production plans. It had originally been intended to produce 112,000 harvester and threshing machine spare parts this year, but the Planning Section suggested a change to 113,000. Later it was realized that harvesting machines alone would require 180,000 spare parts, so bureau leaders raced to make new arrangements to make sure that the machines positively would not lack spare parts and that wheat harvest needs would be met.

Fifth was elimination of product quality and price differences. For the past several years the Farm Machine Company has been dissatisfied with the quality of deep well pumps produced by the Huolu County Water Pump Plant, and the plant generally felt that there was a ready market for its products and so did not give attention to the quality problem. The Machinery Bureau transferred some technicians to conduct studies with the plant and reasons for impairment of quality were found, making it possible to solve the problem. Products bounded into a top grade position. When the state ruled that diesel engine prices could be lowered 35 percent, Shijiazhuang Prefecture studied the matter and ruled that for purchases of more than 300 machines, prices would be lowered 30 percent, and for purchases of more than 500 machines prices would be lowered 35 percent with no squabbles resulting.

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BRIEFS

PARTIAL DROUGHT RELIEF--From the evening of 8 July until 8:00 a.m. on the morning of 10 July it rained everywhere in the province except for Tangshan Prefecture. In south central Baoding Prefecture, eastern Shijiazhuang Prefecture, northern Xingtai Prefecture, northern Hengshui Prefecture, and western Cangzhou Prefecture from 25 to 144 mm of rain fell, Shen, Gaoyi, Chao, Ningjin, Boxiang, and Shulu Counties receiving more than 100 mm. Other areas received little to moderate rainfall. Ever since late June little rain has fallen in the province, and in some places the specter of drougth has risen. This recent rainfall will improve soil moisture conditions and be extremely beneficial for agricultural production. However, in western Xingtai Prefecture, western Handan Prefecture, and in the old drought areas in the southern part of the province, rainfall has been less than 4 millimeters and drought conditions continue unabated. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 10 Jul 82 p 1] 9432

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PROGRESS REPORT ON SONGHUA JIANG POLLUTION CONTROL

Editorial Comment

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Editorial: "We Must Do Well in Bringing Songhua Jiang Pollution Under Control"]

[Text] Reading the news that the work of controlling pollution of the Songhua Jiang has achieved initial success is very inspiring and encouraging. This marks a fine beginning in bringing under control pollution of the Songhua Jiang, and is glad tidings for the millions of peasants who live in the Songhua Jiang basin.

Though much has been accomplished in bringing pollution under control in the Songhua Jiang water system, looked at in terms of full control of pollution in the water system, this work is but a first step. Many formidable tasks await completion. We must establish a mentality of protracted war because of the following: Pollution by some of the major sources of pollution has only been reduced but not totally cured. Control of some major pollutants, such as mercury deposits, is not something that can be completed in 2 or 3 years, but rather protracted and arduous efforts will be required. In the two provinces of Jilin and Heilongjiang, and in Nei Monggol tens of thousands of enterprises directly pollute the river, and control projects to be completed within a specified period of time cover only 20 percent of the total amount of polluted water. Pollution by an overwhelming majority of enterprises has yet to be controlled or cleared up. Pesticide pollution, pollution by hospitals, and pollution by waste water from the people on the several hundred square kilometers of land along the river has not been fundamentally controlled. Some of the newly constructed enterprises have not put into effect the "three concurrents" [provisions for eliminating pollutants as an integral part of production processes], so they add new pollution. Therefore, it is necessary to handle the treatment of Songhua Jiang pollution as a long-term task that has to be adhered to in a protracted struggle against pollution. We must make up our minds that there will be no slackening of efforts until pollution has been eliminated, and that there will be no rest until the river water is clean, and be determined to clean up pollution of the Songhua Jiang!

Cleaning up pollution in the Songhua Jiang is an extremely urgent task. This is because of the seriousness of the pollution. Today, much of the industrial waste water that enters the river does not meet standards for discharge, and some of it exceeds national standards many times or tens of times over. The health of the mass of people is in danger. Moreover, as a result of pollution of the river water, machinery and equipment has been seriously corroded. This hurts product quality and interferes with development of industry, agriculture, and the fishing industry. Socialist enterprises have as their goal the creation of wealth for the people, but when they create havoc for the people and for posterity, does this not go against the goals of socialist production? Therefore, cleaning up pollution is not only a matter of professional morality for each individual enterprise, but is also something decided by the socialist system. We must have a sense of urgency. Every day gained in cleaning it up is a day of creating wealth for the people. Every day's delay is a crime against the people. Only by having a sense of urgency will one not wait or depend on others, but actively create conditions and devote urgent attention to the cleanup. Some advanced units have relied mainly on their own manpower, financial, and material resources, cleaning up pollution through self-reliance. Other units, on the other hand, emphasize subjective conditions, saying that if someone wants them to clean up the pollution, they should give them money to do it. Such an apathetic attitude must be overcome. Except for some comprehensive clean-up projects that the state and higher authority should support, for the overwhelming majority of medium size and small size projects for which the expenditure is not great, only by tapping the potential from within can the problem be solved.

Cleaning up the pollution in the Songhua Jiang is a task of very strong [two characters illegible] requiring not only a revolutionary spirit, but also requiring a scientific attitude. Pollution of the Songhua Jiang is, to a very great degree, the result of backward technology, [several characters indistinct] that has given rise to a waste of energy and resources. Thus, it is necessary to vigorously advocate scientific pollution control and to get results from scientific techniques. The work to be done in this regard is great. Production enterprises that seriously pollute must undertake major technical innovations and technical improvements, get rid of backward techniques, and substitute advanced new techniques. Large specialized institutions of higher education, scientific research organizations, and industrial and mining enterprises must organize and work together in an attack on some major scientific research topics, and departments concerned should lend support in manpower, material and financial resources for this purpose. Intelligence work on environmental protection has to be strengthened, and new techniques from abroad in the cleaning up of pollution promptly mastered, so the work we do can draw on this experience and gain impetus from it. Monitoring devices and methods should be augmented and monitoring centers set up to intensify monitoring of water systems to provide scientific evidence of changes in water system pollution as it occurs and to bring pollution under control.

Pollution of the Songhua Jiang is caused by countless units and departments. It affects areas in both the upper reaches and the lower reaches, and it affects industry, agriculture, business, and health departments, and all trades and industries. It is a social problem. Consequently, in order to clean up the pollution, it is necessary to mobilize all prefectures, all departments, and all trades and industries, to mobilize the masses of people, to make concerted efforts from top to bottom, and to take action together in every quarter. Only in this way will it be possible to halt and prevent pollution effectively. It is necessary to organize individual sectors into coordinated combat, break through regional lines, link together pollution, regions, and sections, and make mutual inspections in order to promote control. Widespread efforts must be made to arouse the people to build an environmental protection corps consisting of specialists, part-timers, and the masses to help supervise and inspect pollution and to control the situation. Only if all sectors of society and all forces are mobilized can greater results be achieved in cleaning up pollution.

In order to clean up pollution of the Songhua Jiang, it will also be necessary to adopt compulsory administrative actions and to use economic and legal methods. This is necessary in order to protect the people's welfare and to protect the welfare of society as a whole. The nationally promulgated "Environmental Protection Law (Trial)" and "Management Regulations on Collection of Fees for Discharge of Pollutants" are major administrative regulations for promoting a cleanup of pollution. All departments and enterprises must carry them into effect, make certain to maintain the solemnity of the law, and handle matters strictly in accordance with laws. All units that are to clean up in a certain period of time are to finish within that period of time. Where work cannot be finished in time as a result of lack of effort on the part of leaders, responsibility is to be fixed on leaders and economic penalties imposed.

Protection of the Songhua Jiang and cleaning up of the Songhua Jiang is a formidable, glorious, and great undertaking. It is a major component in our building of the two civilizations. Only by having grand and far-reaching goals the resolve to struggle for a long period of time, a firm and indomitable spirit, a work style in which our feet are firmly planted on the ground, and a strictly scientific attitude will we be able to eliminate pollution in the Songhua Jiang water system and bring about its early return as a beautiful, limpid river.

Conference Held

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Text] Under a new situation of readjustment of the national economy active and effective measures are to be adopted to achieve new levels in the job of clearing up the Songhua Jiang water system in an effort to achieve by 1985 a remarkable improvement in quality of water in seriously polluted sections of the river, a 60 percent processing rate for waste water, and a breakthrough in cleaning up mercury deposits in the river. This is the objective of struggle put forward to Jilin and Heilongjiang provinces by the Third Songhua Jiang Water System Protection Conference.

The Third Songhua Jiang Water System Protection Conference was held in Qiqihaer from 2 to 5 July. A total of more than 500 persons in charge in the various commissions, departments and bureaus of Jilin and Heilongjiang Province, persons in charge in various provincial government administrative offices, municipalities, and counties, as well as delegates from individual major industrial and mining enterprises and entreprenurial units along the river attended the conference.

Chen Xiping [7115 6007 1627], representative from the national Ministry of Urban and Rural Construction and Environmental Protection, and delegates from other national ministries and commissions involved, as well as persons in charge of departments concerned in the Nei Monggol Autonomous Region also participated in the conference.

The unit chief of the Songhua Jiang Water System Protection Leadership Unit and Jilin Province vice provincial governor, Dong Xin [5516 2500], made a report to the conference on behalf of the unit. The deputy director of the leadership unit, Heilongjiang Provincial CCP Committee secretary and vice provincial governor of Heilongjiang Province, Chen Jianfei [7115 0494 7378] gave a speech at the conference.

This conference summarized accomplishments and experiences during the past 4 years in cleaning up the Songhua Jiang water system. It studied existing problems and measures for further prevention and control of pollution, proposing a goal for struggle between now and 1985. The conference asked all departments and enterprises concerned to link together the prevention and control of pollution of the Songhua Jiang with technical improvements in enterprises, using the technical improvements to solve, to the maximum extent possible, industrial pollution in the production process. It asked major sources of pollution to continue to take action to clean up within a limited period of time, and to hasten the pace of the cleanup, leaders of units unable to complete the cleanup on time being held responsible. Management of the water system is to be improved, both legal methods and economic measures being used to strictly control production and new pollution. In projects to be newly built, remodeled, or enlarged, the "three concurrent" regulations are to be enforced requiring concurrent designing, construction, and operation of projects and pollution control devices. Monitoring of water quality is to be intensified, and a good job done in scientific research on prevention and control of water pollution. Units who had made achievements in the prevention and control of Songhua Jiang water system pollution, including the Jilin Chemical Industry Company, the Mudanjiang Petroleum Refinery, the No 1 Automobile Manufacturing Plant, and the Qiqihaer Steel Mill gave briefings on experiences to the conference.

The Songhua Jiang Water System Leadership Unit issued banners of merit, certificates of merit and trophies to 29 advanced units and 25 advanced persons in Jilin and Heilongjiang provinces.

Pollution Control Achievements

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Text] The work of cleaning up pollution of the Songhua Jiang water system has achieved heartening results. Pollution has been brought under preliminary control; a great reduction has taken place in the quantity of pollutants discharged into the river; and water quality has improved remarkably. In the second stage of the Songhua Jiang where fish and shrimp had virtually vanished, schools of fish have appeared again; and in the Nen Jiang, where valuable fish were rarely seen for a time, an increase has taken place.

The Songjiang water system encompasses the second stage of the Songhua Jiang, the Nen Jiang, the Mudan Jiang, and several such large tributaries, the basin covering an area of more than 540,000 square kilometers. This is a water conservancy resource shared by Jilin, Heilongjiang, and the Nei Monggol Autonomous Region. With the building of industrial production following the 1960's, river pollution became increasingly serious. Daily more than 8 million tons of damaging effluent containing phenol, cyanogen, mercury, chromium, arsenic, alkali, and oil was discharged into the river posing a serious danger to agriculture, the fishing industry and the people along the river. In order to buttress the prevention and control of pollution of the Songhua Jiang water system, in 1978 the State Council approved the establishment by the governments of Jilin and Heilongjiang provinces and pertinent ministries and commissions of the central government of the Songhua Jiang Water System Protection Leadership Unit with responsibilities for overall planning of pollution and control on the Songhua Jiang water system. The leadership unit held a regular meeting once each year and also held three water system protection conferences for prompt summarization of the lessons of experience in pollution prevention and control, to solve existing problems, and to energetically give impetus to the work of pollution prevention and control on the entire water system.

In the process of cleaning up pollution on the Songhua Jiang water system, it directed attention to the major polluting cities, major sources of pollution, and the major pollutants. Under the centralized direction of the leadership unit, Jilin and Heilongjiang provinces designated three groups causing serious pollution and demanded that 140 enterprises and 187 projects causing the greatest damage clean up within a limited period of time. The Jilin Chemical Industry Company was the number one source of pollution in the second stage of the Songhua Jiang, discharging a large quantity of waste water containing numerous kinds of poisonous materials of high toxicity. In the process of cleaning up within a limited period of time, they took only 2 years time to build a waste water processing system capable of handling 192,000 tons daily, the first section of which has already gone into formal production. The second section is being feverishly worked on. Once this project has been completed, it will play a definite role in improving the water quality of the Songhua Jiang. Qiqihaer was the major polluting city in the mid reaches of the Nen Jiang, which has set up 95 projects within the space of 4 years for effecting a cleanup in a short period of time. The cleanup centers on the Qiqihaer Steel Mill, the No 1 Heavy Machinery Plant's effluent, which contains phenol, and the organic effluent of a sugar mill, a paper mill, and a main tannery plant. As a result, the phenol content of the Nen Jiang's water has become much lower than national health standards for surface water, and aquatic product resources have revived.

In the course of cleaning up Songhua Jiang water system pollution, many methods were applied to strengthen management of the water system. In the case of enterprises that seriously polluted and could not be readily brought under control, closures, suspensions, mergers, retooling, and relocation were done to solve pollution problems. In Nenjiang Prefecture alone, 11 industrial plants were relocated, and 15 plants were closed or suspended. Last year both Jilin and Heilongjiang provinces instituted a system of fee collections for discharge of pollutants. Enterprises whose pollutants posed great dangers were economically penalized. This aroused serious attention on the part of all levels of leadership about cleaning up pollution, and numerous enterprises took the initiative to start pollution control work and plug gaps creating pollution. In addition, after instituting the collection of fees for discharge of pollutants, some cleanup funds were collected, and during the past 2 years both Jilin and Heilongjiang provinces have used the fees obtained for discharge of pollutants to set up 235 clean-up projects in which they have invested 17.5 million yuan. In addition, for new construction, remodelling, and expansion of large and medium size projects, they have instituted a system of environmental impact reports, and have devoted great attention to implementation of the "three concurrents" for effective control over the production of new sources of pollution.

Under the centralized planning of the Waterway Leadership Unit, Jilin and Heilongjiang environmental protection departments have intensified monitoring of the Songhua Jiang water system. They have built 39 monitoring stations on the waterway equipping them with water quality monitoring boats and other devices and equipment for the preliminary formation of a Songhua Jiang water quality monitoring network. This will provide large amounts of monitoring data and technical material for understanding the waterway's environmental quality and for comprehensive prevention and control of pollution, playing a sentry role as eyes and ears. Jilin and Heilongjiang's science commissions and environmental protection departments have organized relevant scientific research units and institutions of higher learning to begin active research work on Songhua Jiang water system environmental protection. During the past several years, large groups of scientists and technicians have gone into industrial plants, rural villages, and seriously polluted stretches of the Songhua Jiang basin to survey the pollution situation and to study the danger pollutants pose to human health as well as to agriculture, the fishing industry, and organisms. It has already okayed 31 scientific research projects, 23 of which have been applied to pollution prevention and control. Tong He paper mill engineer Wang Deshan [3076 1795 1472] succeeded after 7 years of research on the new technique of electrodialysis of black liquid produced in paper making, recovering caustic soda to clean up pollution, obtaining both remarkable economic benefits and environmental benefits. Jilin Municipal Fuels and Chemicals Bureau assistant engineer Cui Yongjiang [1508 3057 3068] went into the No 3 Chemical Industry Plant to solve pollution problems involving waste water containing metaphyenylene diamine contributing his strength to increasing the country's wealth and protecting the Songhua Jiang.

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STATUS REPORT ON NEN RIVER DIVERSION PROJECT POSTED

Harbin HEILONGJIANG RIBAO in Chinese 5 Jun 82 p 1

[Article: "Nen Jiang Diversion Project in Southern Heilongjiang Begins to Provide Benefits. Progress Made in Solving the Water Shortage Problem of the Western Prairie"]

[Text] The Nen Jiang River diversion in southern Heilongjiang Province, on which 80 percent of construction has been completed, already holds more than 160 million cubic meters of water to form a natural reservoir with a water surface larger than a mirror lake so that the farming, animal husbandry, sideline occupations, and fisheries of nearby communes and brigades can flourish.

Beginning during the 1970's, construction has continued on a project in the western part of the province on large northern, southern, and central diversions of the waters of the Nen Jiang to irrigate the western prairie. The southern Nen Jiang diversion project, on which construction began in 1977, is located on the left bank of the lower reaches of the Nen Jiang, and the diversion channels traverse the Zhaoyuan and Duerbo Counties, and the city of Daqing. This is a large water storage project for the benefit of agriculture, animal husbandry, sideline occupations, and the fishing industry. The waters diverted from the Nen Jiang are stored in eight natural ponds to form a continuous large reservoir. The amount of water currently impounded is about one-fourth the design requirement. Following diversion of the river waters, the natural and economic situation around the reservoir area began to change. The large increase in water surface brought good influences to this arid climate and promoted development of agriculture. The river waters brought abundant aquatic products. Last year alone, Lijiayao Second Brigade in Yaoxintun Commune in Duerbote Monggol Autonomous County caught fish in the reservoir and channel for earnings of 30,000 yuan. Reeds grow luxiantly along the reservoir shore, and last year a total of 14,700 tons of reeds were harvested from the reservoir area to increase earnings by 880,000 yuan. Grass quality on the prairie near the reservoir area has also begun to change. Grazing cattle and sheep are fat and sturdy.

Today the two counties and one city are both continuing attention to project construction and striving to increase benefits from the project as well. Communes and brigades concerned have already formulated comprehensive regulations for use.

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NOTICE ISSUED FOR METHOD TO CLASSIFY PEASANT TECHNICAL PERSONNEL

Harbin HEILONGJIANG RIBAO in Chinese 6 Jun 82 p 1

[Article: "Heilongjiang Province Tries 'Peasant Technical Personnel Management Methods.' Classification as Peasant Technicians and Grade 1, 2 and 3 Peasant Technical Personnel With Testing and Assessment Before Year's End"]

[Text] Recently the Provincial People's Government issued a notice approving the "Heilongjiang Provincial Peasant Technical Personnel Management Method (Trial)" and called on all prefectures, municipalities, and counties, as well as departments concerned directly subordinate to the province, to do a good job of peasant technical personnel classification and evaluation work, carrying out testing and assessment of existing peasant technical personnel before the end of the year.

The management methods stipulated classification as peasant technician and as grade 1, 2 and 3 peasant technical personnel. Peasant technicians must possess vocational skills equivalent to levels at institutions of higher education, have more than 10 years practical experience in technical agricultural work, and be able independently to solve crucial technical problems in production. Grade 1 peasant technical personnel must possess vocational skills equivalent to the technical secondary school level, have more than 5 years practical experience in technical agricultural work, and be able independently to conduct experiments and demonstrations. Grade 2 peasant technical personnel must be able rather systematically to understand certain scientific and technical knowledge and operating skills, have more than 3 years practical experience in technical agricultural work, and be able to conduct experiments and demonstrations as required. Grade 3 peasant technical personnel must be able to understand in a preliminary way certain agricultural scientific and technical knowledge and operating skills and to be able to solve run of the mill technical problems in production.

Peasant technicians and peasant technical personnel classification is to be done by municipal and county peoples governments (farm machinery by provincial administrative offices and by cities), certificates being issued. Peasant technical personnel will be eligible for promotion once every 2 years, and those who have been classified will be subject to regular observation. The management methods also stipulated peasant technical personnel remuneration and technical subsidy methods.

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NEED FOR ECONOMIC CROP QUALITY IMPROVEMENT ACCENTED

Harbin HEILONGJIANG RIBAO in Chinese 8 Jun 82 p 2

[Article by Sun Xiangde [1327 0686 1795], Provincial Bureau of Agriculture: "Need To Stress Product Quality in Production of Economic Crops"]

[Text] The province's production of economic crops has developed very rapidly during the past several years, the area sown to economic crops having doubled over what it had been before the Third Plenary Session of the 11th Party Central Committee. Yields per unit of area have increased for all crops, and total output has grown tremendously, oil-bearing crops increasing four fold, sugarbeets increasing 1.5 fold, flax doubling, and tobacco increasing somewhat as well. This has been of very great benefit in satisfying the needs for raw materials of light and textile industries and in increasing commune and brigade earnings. However, product quality of economic crops has risen only slowly. During the past 2 years, sugar content of sugarbeets even declined between 1.5 and 2 percent from what it had been during the 1970's, and the turn out rate for flax has stopped at its former level. Many problems also exist with quality of medicinal materials and vegetables, and because of poor quality of some products, industrial processing is difficult and businesses cannot sell them. This shows that how to improve product quality in economic crop production is a problem deserving of attention.

Aside from the effects of climatic conditions, the main reasons for the slow rise or the decline in product quality of economic crops are as follows: 1. In some economic crop producing areas, attention is given only to increasing quantity and no attention is given to increasing product quality. Some people mistakenly suppose that earnings are unaffected no matter whether quality is good or bad. 2. Poor quality resulting from lack of understanding of techniques. 3. Poor seed quality and impure varieties that produce inferior quality. 4. Some purchasing departments do not stricIty check quality of goods, and do not negotiate prices on the basis of quality. This affects the enthusiasm of the masses for improvement of quality. 5. Purchase standards for some products are not sensible. Oil-bearing crops, sugarbeets, and flax, for example, are bought by the quantity with no quality grading for purchases. In order to improve product quality, the following several tasks must be done.

Full Understanding of the Importance of Improving Product Quality.

The province has many kinds of economic crops--oil-bearing crops, hemps, sugarbeets, tobacco, and medicinal materials, all of which are raw materials for national light and textile industries. Broadly speaking, fruits, melons, flowers and such garden crops are also kinds of economic crops that are both raw materials for the food industry and are necessary consumption goods for use in the daily life of the people. Thus, the quantity of economic crops and their quality directly relates to development of the national economy and to improvement in the people's livelihood. If the province's sugarbeets average a one percent increase in sugar, without any additional facilities or investment, it is possible to increase sugar output by from 25,000 to 30,000 tons for a value of more than 30 million yuan. If flue-cured tobacco is improved by a single grade on average, peasant income increased by from 50 to 70 per mu, and increased earnings from tobacco growing areas of the province as a whole amount to between 30 and 40 million yuan. Therefore, cadres and the masses in economic crop growing areas must certainly realize the importance of improving product quality. They must particularly overcome their sole concern for quantity to the neglect of quality.

Dissemination and Improvement In Farming Techniques

It is necessary to further promote and disseminate effective conventional farming techniques and also to study and advance new techniques for improvement in product quality. For example, in field care during the present stage, in addition to doing a good job of care and of applying top dressings of phosphate and potash, it is also necessary to institute care of individual kinds of things. For example, for the sunflowers growing among oil-bearing crops, prompt removal of side branches and artificially assisted pollination must be done. Peanuts require "stripping to restrain growth of seedlings for root development" to make the most of the function of the first pair of side branches. Sugarbeets have to be thinned promptly and sugarbeet leaves retained during the growing season to increase sugarbeet photosynthesis for the accumulation of sugar. Flax requires prevention of excessive weeds from the very outset. When the flax is uprooted, all weeds must be completely removed, etc. In the case of some newly promoted techniques requiring try outs and demonstrations such as the use of plastic mulch in the growing of peanuts and tobacco, and the fertilization with trace elements and the spraying of stimulants on sugarbeets and sunflowers, fertilization and spraying should be done according to what elements the soil lacks and what the crops need.

Achieving the Sale of Clean Goods and Delivery of Clean Goods to Market

Cleaning products until they are spic and span and selling clean merchandise is one important way in which to improve product quality. When crops are harvested, the slightest bit of inattention and dirt weeds become mixed in to cause an excessive amount of detritus that impairs product quality. In Heilongjiang Province, in particular, where in the purchase of economic crops at the present stage, the naked eye is used to check and measure quality, inaccurate quality checks are very likely to occur. If clean merchandise is tendered, checking will be made easier and no major mistakes will occur, which will be an advantage for those doing the selling.

Conscientious Implementation of Purchase Policies.

When purchasing departments buy economic crop products, they should strictly understand the principle of premium price for premium quality, and conscientiously carry out purchase price and quality standards established by the state. They should widely publicize what kinds of sugarbeets will be discounted by 80 percent and what kinds will be discounted 10 or 20 percent so that the masses will have standards they can use to judge and a direction in which they can strive. Otherwise the masses will have an impression that no distinctions between good and bad are made. In addition, some product purchasing policies should be improved. An example is sugarbeets for which there are no grades for purchases, discounting being done on the basis of extranneous materials being mixed in instead of grade. This is very imprecise, and it is suggested that grade standards be reinstituted. Sugarbeets and oil-bearing crops should be graded for purchase on the basis of sugar content and oil content. When necessary, it is recommended that some quick chemical testing equipment be installed, and if tests are successful, that this method be promoted. In short, the principle of premium prices for premium quality should be genuinely put into effect and purchase policies used to give impetus to adoption of measures by the masses to improve quality of economic crop products.

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MULTIPLE USES OF SOYBEANS PROMOTED

Harbin HEILONGJIANG RIBAO in Chinese 13 Jun 82 p 1

[Article: "Province Makes New Advances in Multiple Uses of Soybeans. Experts Suggest Drafting Plan With All Possible Speed for Multiple Use of Soybeans Throughout Province and Conscientious Solution to Pertinent Economic Problems"]

[Text] Progress has been fairly rapid in Heilongjiang Province's research and promotion of multiple uses for soybeans. Rignt now, two soybean protein separation workshops with daily outputs of 400 kilograms and 700 kilograms are being built, and it is anticipated that they will go into production shortly. Success has also been attained in pilot projects for the extraction of enriched protein, and experiments with adding it to several different foodstuffs have begun. During the last half of last year alone, the province produced more than 800 tons of protein of soybean origin, which was sold in Shandong, Shanxi, and Henan provinces. Definite growth has taken place in soybean protein beverages. In addition to "Jinboye," which as gone into small lot production, research has succeeded in the production of neutral protein milk and acid protein milk beverages. Bread, biscuits, sweets, and cakes to which soybean protein and phosphatide have been added are being test marketed and have been increasingly well received by the public.

At the recently convened provincial technical discussion conference on multiple uses for soybeans, experts acknowledge that multiple use of soybeans is just getting underway in Heilongjiang Province and that the potential for multiple uses of soybeans is still very great. They recommended the drafting, with all possible speed, of provincial plans for multiple use of soybeans and the conscientious solution to technical and economic policy problems in order to promote multiple uses of soybeans throughout the province.

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HEILONGJIANG

PROGRESS REPORTED IN ERADICATION OF HOG CYSTICEROSIS

Success in Zhaodong County

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] The Zhaodong County CCP Committee and county government brought into play the functional role of the commercial, health, and animal husbandry sectors to win outstanding achievements in the eradication of cestodiasis and the elimination of cysticercosis. During the butchering of commodity hogs last year, the cull rate for "beanies" [so called because of the bean-like appearance of symptoms] was only 6.26 percent, a 3.5 percent decline from 1980. The number of "bean hogs" found during the butchering of commodity hogs between January and May this year was 230-odd fewer than for the same period last year for a more than 18,000 yuan smaller loss for the country. Zhaodong became the county in the province in which eradication of "bean hogs" had been most rapid. Not long ago it had been praised as an advanced county in the province for the eradication of cestodiasis and the elimination of cysticercosis.

Formerly this county lacked concerted and centralized leadership in the work of eradicating cestodiasis and the elimination of cysticercoisis, and it had little success. At the end of 1980, the County CCP Committee strengthened leadership of this work by setting up a coordinated leadership team for the eradication of cestodiasis and the elimination of cysticercosis, which directed attention to the work as a major task. It brought into full play the functional role of the commercial, health, and animal husbandry sectors with the result that within a short period of time, the county's work in eradicating cestodiasis and eliminating cysticercosis showed remarkable success.

One of the major actions that Zhaodong County took in the eradication of "bean hogs" was the eradication of human tapeworms [cestodiasis]. Througout the county, almost 100 buyers in food purchasing stations, a tapeworm specimen frequently in hand, would prosylitize or explain whenever they encountered people. Wherever they went, they took medicine for the eradication of tapeworms, which they gave to people to get rid of tapeworms. Ren Peifu [0117 0160 3187], buyer for the Songzhan food station eliminated 113 tapeworms in a single year and Wang Jinshan [3769 6855 1472], buyer at the Wuzhan food station eradicated 87 in a single year. They were both acclaimed by the province and county as skilled hands in the eradication of tapeworms. By way of encouraging enthusiasm for the eradication of tapeworms, the county government decided to issue a bonus of 8 yuan for the eradication of each tapeworm, also giving 2 yuan to the victim from whom the tapeworm had been eliminated. In this way, they further fanned enthusiasm for the eradication of human tapeworms. In order to eliminate "bean hogs" before butchering time, every effort was made to select out the "bean hogs" from among the more than 50,000 head annual purchased in the county at the time of purchase. In butchering hogs in urban and rural areas rigorous quarantining was done. The meat of "bean hogs" that had been quarantined was handled in accordance with national regulations.

In order to make sure that "human feces go into the toilet and hogs go into stys," so as to halt consumption of feces from humans having cestodiasis that caused the growth of larvae in hogs, management of human feces was improved. Last year the county repaired or rebuilt 83,000 pig stys and built 72,000 toilets. At the end of last December, the County CCP Committee and county government issued a document that established a policy of high compensation for contributions of manure so as to give further impetus to the raising of hogs in stys year round.

In order to reduce the number of "bean hogs" purchased by the state without creating greater economic losses for hog raisers, the county food company ran a pilot project in Xianjin and Minzhu communes on the buying of small "bean hogs," and the county government decided that this year it would undertake the purchase of "bean hogs" throughout the county to speed up making the county into a cysticercosis free one.

Commentary

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] Great progress has occurred during the past several years in the eradication of cestodiasis and the elimination of cysticercosis in Heilongjiang Province. The number of "bean hogs" has decreased year by year, and the cull rate for "bean hogs" at the time of commodity hog butchering has also greatly declined. Nevertheless, today the area of hog cysticerosis in the province is still very large. Survey by departments concerned shows that sufferers from cestodiasis in the province's rural villages number about 6 per 1,000 and that the national incidence is fairly high. Hog cysticerci go through a cycle of infection between humans and hogs, which seriously impairs the physical health of the people, and damages the development of live hog production. The economic losses caused in dealing in live hogs are also very great. In 1981 the province's cull rate for "bean hogs" when commodity hogs were butchered was 9.21 percent, for economic losses amounting to more than 17 million yuan. Were "bean hogs" to be eliminated, without any increase in annual livestock feed consumption there would be a 300,000 head increase in the number of commodity hogs. Therefore, every place in the province must set their sights high to do a solid job of eradicating cestodiasis and eliminating cysticercosis, striving to bring about a tremendous decline in the numbers of "bean hogs" in the province within the shortest period of time.

Though steps taken in Heilongjiang Province have not been great in the eradication of cestodiasis and the elimination of cysticercosis, some places have accumulated some rather good experiences. As a result of practice, Zhaodong

County has summarized three experiences. One is the elimination of tapeworms in humans as a means of eliminating the source of infection for "bean" growth in hogs. Second is doing a good job of pork inspections to make sure that the ailment does not enter through people's mouths. Third is toilets for people and stys for pigs, with hogs being raised in stys year round. Practice has shown that these three experiences are effective ways in which to eradicate cestodiasis and eliminate cysticercosis. The raising of live hogs in stys is a particularly good way which to put a complete stop to "bean hogs." However, at the present time, in many places in the province hogs are still not raised in stys; most roam at large. Unless this old habit is quickly changed, any thought of eradicating "bean hogs" in Heilongjiang Province will be just empty talk. With the implementation of the party's various economic policies for rural villages during the past several years, as a result of the allocation of land on which to raise fodder to the giving of grain to raise hogs and reasonable compensation being paid for the fattening of hogs, conditions are in being for the year round raising of hogs in stys. All that is needed is a strengthening of leadership and a good job of propagandizing and educating in scientific hog raising, and the year round raising of hogs in sties in rural villages is attainable.

Of course, doing a good job of eradicating cestodiasis and eliminating cysticercosis is not something that any sector can do all by itself. There has to be the kind of close coordination effected in Zhaodong County among the commercial, health, and animal husbandry sectors, bringing into full play existing technical capabilities, constantly summarizing experiences, and taking hold of the problem and holding fast to it till the end. In this way, within 3 or 4 years, there is great hope that cysticerosis can be eliminated in the province.

Zhaodong County's experiences also tell us that in undertaking the eradication of cestodiasis and the elimination of cysticercosis, efforts have to be linked to local realities, and general methods adapted to specific situations for the use of some economic methods to stir the enthusiasm of people, and to give impetus to the work of eradicating cestodiasis and eliminating cysticercosis.

Origins of 'Bean Hogs'

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] "Bean hogs" means hogs that have cysticercosis. The scientific name for this is echinococcosis. It is popularly termed "bean hog" or "rice grain hog" because of the pellet shape of the symptoms. Hog cysticerci are a parasite that grow in many parts of a hog's body.

When people accidentally eat "bean hog" pork, the hog cysticerci develop into tapeworms in the human digestive tract, and become parasites in the small intestines where their small rice grain size heads closely adhere to the intestinal wall, damaging the person's physical health. Mature segments of these tapeworm's bodies are continuously eliminated from the body with feces. Millions of larvae in these segments infest human feces. Should hogs eat human feces containing these larvae, they develop into cysticerci in the hog within 2 or 3 months time. Tapeworms and cysticerci carried from humans to hogs and from hogs back to humans thus infect both. People can contract not only cestodiasis but cysticercosis as well. By accidentially eating larvae on raw vegetables or from infection from a tapeworm victim, cysticerci parasites may grow in a person's muscles or body organs. If the parasites infect the eyes, blindness may result. Should they lodge in the heart or brain, one's life is in peril.

In order to guard against humans contracting tapeworms and hogs growing "beans," tapeworm parasites in human bodies have to be eradicated first to eliminate the source of infection. It is also necessary to exercise better management over pork containing cysticerci to end opportunities for people to contract tapeworms by accidentally eating pork containing cysticerci.

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RURAL RESPONSIBILITY SYSTEMS WORKING IN GANZHOU PREFECTURE

Beijing RENMIN RIBAO in Chinese 29 Jul 82 p 1

[Article: "The Five Rural Occupations Flourish in Ganzhou Prefecture. All Work Rolling Along Smoothly. Tremendous Superiority of Sole Responsibility System Demonstrated. Total Grain Output Breaks 4 Billion Jin Mark for First Time. Degree of Increase Fairly Great for Sugarcane, Flue-cured Tobacco, and Watermelons"]

[Text] Following all around promotion of the responsibility system whereby households assume sole responsibility for task completion in rural Ganzhou Prefecture, Jiangxi Province, not only have the four rural occupations [farming, forestry, livestock raising, sideline occupations, and fisheries] prospered, but all work has rolled along fairly smoothly.

After the Third Plenary Session of the 11th Party Central Committee, rural Ganzhou Prefecture began to practice the system of sole responsibility for task completion, but met with obstacles. After examination of practice, its superiority became increasingly apparent and the masses demanded it more and more urgently. Leadership cadres at all levels also gradually reached a consensus with the masses, and the sole responsibility system came out of obscurity into the light, went from little use to much use, and was promoted from key points to wide areas. Last year 94 percent of production teams in the prefecture practiced assumption of sole responsibility for task completion, and 4.2 percent practiced the fixing of output quotas based on households. Consequently, the hope of breaking the 4 billion jin mark in total grain production, which had been thought about for many years, was realized for the first time. Average per capita grain production reached 537 jin, putting an end to a many year history of eating grain sold back to peasants by the state. Fairly great growth also occurred in economic crops such as sugarcane, flue-cured tobacco, and watermelons, and forestry, livestock raising, sideline occupations, and fisheries also saw new development. In 1981 per capita income for the prefecture as a whole averaged somewhat more than 120 yuan, a more than 40 yuan increase over 1980. For the first half of 1982, the rural production picture has been even better. A bumper early rice harvest is in prospect, and a greater increase than last year will occur in economic crops such as flue-cured tobacco, watermelons, and sugarcane.

Some people have said that though the assumption of sole responsibility for task completion has caused production to rise, public feeling has been dispersed and many jobs are hard to do. What are the facts? Following institution of the system of assumption of responsibility for task completion, state procurement and assigned procurement tasks have not been hard to do, but rather have been done relatively well. Last year the entire prefecture's state requisition and assigned procurement quotas for the major agricultural and sideline products of grain, oil-bearing crops and hogs were entirely fulfilled, and collective accumulations were also honored according to agreements. Households selling 10,000 jin of grain to the state numbered 274; those selling 5,000 jin numbered 1,176.

Following assignment of sole responsibility for completion of tasks, is it true that there is no way in which to undertake farmland water conservancy construction? No. Following assignment of sole responsibility for task completion, the mass of peasants have been keenly pained at waterlogging and drought disasters. They wanted to spend their own money and labor on the building of water conservancy. At the end of last year, Ganzhou Prefecture added an effectively irrigated farmland area of 21,400 mu, improved irrigation for 26,000 mu of farmland and the drainage on 2,700 mu of farmland. When construction of a large dam began in the winter of 1980 at Longshan County's biggest water conservancy project, Fengshoupo, inasmuch as 80 percent of production teams in the area that would benefit practiced assumption of sole responsibility for task completion, and since the principle of those who benefit are to be responsible was implemented, during two winters and springs, 1.4 million people worked on the project, and in March of this year the dam project was completed on schedule. Facts have shown that the following institution of the assignment of sole responsibility for task completion, water conservancy construction has been more solidly done than last year, and more attention has been paid to effectiveness.

Following practice of the assignment of sole responsibility for task completion, has the spread and popularization of science and technology been done better or worse? Contrary to what some people imagined, because the peasants have taken charge and benefits are more direct, the enthusiasm for scientific farming is even higher. Each of the communes in the 19 counties and municipalities in Ganzhou Prefecture have set up farm technology promotion and consultation stations, scientific farming demonstrations households, and households in which remuneration is linked to practice of scientific techniques. Some have also established plant protection companies and have practiced technical contracting. In rural villages an unprecedented "scientific craze" has taken place.

Following assignment of sole responsibility for task completion, rural Ganzhou Prefecture everywhere adopted a system of collective withholdings, subsidies from commune and brigade enterprises, and the pooling of funds to run schools. The school attendance rate for peasant children of school age has steadied at more than 95 percent. Some people feared that following the practice of sole responsibility for task completion, the work of recruiting soldiers would be difficult. But because of improvement in the standard of living of the masses in Ganzhou Prefecture during the last 2 years, better implementation of policies for special care to disabled servicemen and to family members of revolutionary martyrs and servicemen, and the elimination of nagging worries about the home front, quotas for the recruitment of soldiers have been over-fulfilled and both quantity and quality maintained.

Whether it will be possible following the practice of sole responsibility for task completion to do a good job of planned parenthood has become a problem that people are concerned about. Experience in Ganzhou Prefecture has shown that so long as methods are right and actions vigorous, this most difficult task can also be done well. In view of the new circumstances that have taken place following assignment of sole responsibility for task completion, this prefecture has adopted many new measures. For example, for wives who hold certificates for the birth of a single son or daughter an additional 1/10 mu of responsibility field is given, or else a special parcel of good land is assigned to encourage planned parenthood. Quite a few counties and communes also practice a planned parenthood agreement system and a planned parenthood cadre personal responsibility system to make sure of the smooth development of planned parenthood work. Last year the natural rate of population increase for the prefecture as a whole fell from 19.8 per 1,000 to 11.37 per 1,000.

9432
CSO: 4007/520

ACHIEVEMENTS IN SCIENTIFIC COTTON-GROWING SKETCHED

Beijing RENMIN RIBAO in Chinese 27 Jul 82 p 2

[Article by Jiangxi Provincial CCP Committee secretary, Liu Chunxiu [0491 0193 4423]: "Lock to Science for Cotton; Depend on Science To Win High Yields"]

> [Text] Editor's Note: A look at scientific cotton farming in Jiujiang Prefecture, Jiangxi Province shows that a huge craze for the study of science is brewing in rural villages. Reliance on science to win high yields has become an inexorable trend in the development of agriculture, and it is the responsibility of leaders at all levels to give wholehearted and enthusiastic support to the demands of the masses as well as to provide careful organization and direction.

After rural villages completely establish various forms of production responsibility systems, and particularly in places practicing "double contracting" to the households [fixing output quotas on individual households with households assuming full responsibility for task completion], will it be possible to apply and spread the fruits of agricultural science and technology? In facing myriad households, how should one go about the popularization of scientific agricultural techniques? This is a problem that people are commonly concerned about at the present time. During late May and early June this year, I conducted an investigation of these problems in Jiujiang Prefecture, where I found that numerous moving examples of the broad masses of cotton growing peasants and grassroots level cadres studying science and using science, and relying on science to win high yields provided very good answers.

During the past 3 years, Jiujiang Prefecture's ginned cotton output has climbed from the 340,000 dan of 1978 to 536,000 dan in 1981, averaging a 16.7 percent increase annually. Yields per unit of area rose from 61 jin to 89 jin. Both were all-time highs. An important reason for such rapid development of cotton production in Jiujiang Prefecture during the past several years has been, the establishemnt of various forms of production responsibility systems aside, the whole-hearted support given by all levels of CCP committees and government for the urgent need of the broad masses of cadres and people to study science and use science, and the strong attention devoted to popularization of scientific farming by the myriad households.

Ever since Jiujiang Prefecture established various forms of production responsibility systems of which "centralized administration with expected output linked to individual workers" and "double contracting" to households were the dominant forms, the broad masses of cotton growing peasants realized increasingly deeply that in order to win high yields and increase their incomes fairly substantially, sole reliance on enthusiasm and hard work was far from sufficient. They would have to depend on science as well. The numbers of peasants urgently demanding a grasp of scientific cotton-growing techniques became increasingly great, creating an unprecedented atmosphere of conscious study. In order to master the fundamental knowledge about cotton production and the new cotton-growing techniques, they searched everywhere for materials, bought books and periodicals, and sought the advice of master workers. Leading comrades in the several counties I visited said, "Commune members used to dislike cadres for talking too much, but now they hope cadres will give direction. Farm technicians, in particular, are much sought after. Formerly when meetings were held, they sat in a 'cold corner' but now commune members 'pull farming into the corner.'" Once farm technicians begin to teach a class in techniques, 100 people are notified and 200 or 300 show up. Wulian Production Brigade in Furong Commune, Pengze County has 750 households. Originally the production brigade planned three runnings of a class for household heads, 250 people to a running. In the end, between 400 and 500 people showed up for the first running and the classroom could not hold them all, so a system of "issuing certificates for entry" had to be adopted. This year, Pengze County has trained a total of more than 70,000 party member, cadre, and household head attendees and has printed and distributed 150,000 copies of farm technician teaching materials. Still it has been unable to satisfy the needs of the masses. Accompanying the deepening of the mass movement to study science has been the appearance throughout the prefecture of a group of "stand out" households, one after another. At Wanhu Production Brigade in Wanhu Commune, Duchang County, female commune member Yu Caijin [0151 1752 6855] contracted last year for 2.8 mu of low cotton yeild red soil. Her husband, an accountant in a commune and brigade enterprise, had some scientific and cultural background. With the help of her husband, she voraciously studied scientific cotton growing techniques and succeeded in wresting yields of 210 jin per mu of ginned cotton from the soil. Commune members respected her scientific level of growing cotton and envied more her 1,000 yuan income. They came to her door in a steady stream to gain experience. Communes and brigades from as far away as Lin County came running to ask her to teach them her high yield experiences. In their study of science, the masses are interested in genuine results. Whenever there is some technique for increasing yields that brings quick results and that can be put to use, they act at once to use it, and are willing to make the effort and lay out the capital. This year commune members in Daqiao Commune, Ruichang County built more than 500 small boats, which they sent out on the lake to collect grass in preparation to fight drought, guard the cotton against premature deterioration, and harvest more cotton bolls in autumn. Commune members at Gangkou Commune in Jiujiang County personally bought more than 100 flatbed trucks, which they drove several tens of li to collect manure so as to provide their cottonfields with more barnyard manure. The several hundred tons of phosphate and potash that have been additionally moved into each county this year have been entirely bought up by commune members. Some have gone everywhere to buy fine varieties at a high price in a change to fine varieties. Every technique has received the serious attention of commune members everywhere. Some commune members frequently quietly observe technician and cadre experimental fields to see what new ideas they have for increased yields and what new pesticides they have to treat insect pests.

"Look to science for cotton and depend on science to win high yields" is the slogan that was raised immediately following stabilization of production responsibility systems. During the past 3 years, Jiujiang Prefecture has actively relied on farm technicians. They have devoted attention to conventional cotton-growing techniques and have promoted Pengze County's cotton-growing experiences for full stands that develop early through scientific fertilization, and have given attention to a series of cotton-growing experiences on plains areas for the prevention of disease and the elimination of insect pests. From the more than 90,000 mu of cotton in this county, yields per unit of area have risen from 61 jin in 1978 to 109 jin in 1980. Last year, in particular, more than 80 percent of the cottonfields in the county promoted the "three sprayings" (leaf surface spraying of dihydrogen phosphate, spraying of boron, and spraying of cyocel), and the "two applications" (general application of boll formation fertilizer and increased application of potash fertilizer), which are new techniques. Yields of ginned cotton per unit of area increased to 123.4 jin, making it the highest yields per unit of area county in the province. After Jiujiang Prefecture had spread Pengze County's experiences, it changed the slapdash care of cotton that had been practiced for a long period of time, and the passive situation of reduced yields resulting from disease and insect damage.

Duchang County, located in a hilly region, grew somewhat more than 100,000 mu of cotton, all of it on red soil hills. For a long time cotton yeilds have been very low. Since 1979, the Duchang County CCP Committee has earnestly summarized the lessons of experience of longterm low yields and has striven to explore the laws governing cotton growth in the hill region, coming up with a series of experiences involving "giving attention to density and earliness" (suitably close planting for increased yields from colonies) for the promotion of early ripening varieties and scientific fertilization to produce high yields. Following all around promotion of these experiences, within 3 years total output of ginned cotton has averaged annual increases of 32 percent. From the more than 1,300 mu of cotton in Wanhu Production Brigade in Wanhu Commune in this county, yields of ginned cotton per unit of area have been 151 jin, more than that of many high yield cotton growing areas on the plains. The broad masses of cadres and commune members said it well when they said: "By mastering science it has been possible to grow cotton on the low yield red soil hilly fields. No longer are their low yields one's whole life long; with fervent heart and skillful hands high yields are possible."

Right now in the rural villages a tremendous enthusiasm to study science is brewing. It is the responsibility of all us leaders at all levels to promptly, fully, and enthusiastically to lend support to the demands of the broad masses of rural cadres and people, to organize carefully, and to strengthen direction so that the movement throughout the farflung rural villages of the province to study science and use science develops widely, deeply, and continuously.

1. Need to Develop Firmly a Guiding Mentality of Reliance on Science

For many years we have relied on administrative methods to manage agriculture, and we have given little consideration to how to use economic and technical methods. The issue of agriculture's reliance on science has not received the serious attention it deserves. Serious proportional imbalance exists among the development of agricultural production and agricultural research, technical promotion, and cultural education. Following the Third Plenary Session of the 11th party Central Committee, we have had a fairly good understanding and solution of the problem of reliance on policies, and we have won many accomplishments. However, as regards the problem of reliance on science, we have to yet to devote sufficient serious attention. As the situation develops, the problem of agriculture's reliance on science becomes ever more pronounced. As a result of the longterm erroneous "leftist" influence, many comrades have a muddled mental perception. They suppose that "scientific farming and the popularization of agricultural science and technology is a matter for technical personnel"; so long as a good job is done on responsibility systems, production will rise naturally." Some even say that "with water and fertilizer to farm the fields, what need is there for technicians?" Consequently, we must constantly clear away the erroneous "leftist" influence and solve the problem of reliance on science first of all in conceptual terms. In Jiujiang Prefecture, it was only as a result of rather good solution of this problem that leaders seized the initiative in production to win a heartening situation of consecutive year increases in cotton production throughout the prefecture. Leading comrades in the Prefecture CCP Committee and government administrative offices both inspired the indoctrination of responsible comrades at all levels in a thoroughgoing understanding of the importance of studying science and using science, but also earnestly practiced what they preached, personally listening to lectures on techniques given by agricultural technicians, going into production brigades to help improve work and gain firsthand experience, and farming scientific experimental fields thereby effectively giving impetus to the launching of a campaign of studying and using science in rural villages throughout the prefecture. Statistics show that principle leaders at the prefecture and county levels farmed more than 80 mu of high yield experimental cotton fields, and that commune cadres farmed a total of 326 mu of experiemental fields.

2. Need To Establish an Agricultural Science and Technology Promotion System

Jiujiang Prefecture's economy has demonstrated that establishment from top to bottom of an agricultural science and technology promotion system is an organizational assurance for doing a good job of agricultural science and technology promotion work. Through the use of methods such as mobilization of the reutrn of people to units, fitting jobs to specialized training, and augmenting personnel, the prefecture first beefed up the county farming techniques promotion stations. At the prefecture, county, and commune levels, farming techniques promotion organizations were established, and production brigades and production teams designated one or two people responsible for farm techniques promotion work in preliminary establishment of a four level promotion network consisting of the prefecture, counties, communes, and production brigades and teams. All jurisdictions reported that the establishment of this organization and the designation of personnel played a very good role in production and that particularly after the launching of a mass movement to study science, agricultural technicians came to be generally highly regarded by organizations at all levels and were welcomed by the peasants, being frequently asked to "hold classes on techniques," "give on-site guidance," and act as "staff officers' or "advisors."

3. Need To Adopt Methods That Link Specialized Units and the Masses With the Goal of Training Double Track Technical Forces: the Existing Cadre Corps Specialized in Farming Techniques, and a Technical Corps Consisting of Millions Upon Millions of Peasants.

The peasants urgently need science yet the existing number of farm technicians is seriously inadequate. This is a problem that exists in every county. As a result, we must first rely on existing farm technicians, showing concern for them politically, supporting them in their work, and looking after their livelihood to make the most of their active guiding role in the popularization of scientific techniques. An overwhelming majority of locales have begun to give serious attention to this owrk. However, overall, still further improvements are awaited in the work of utilizing farm technical cadres and implementing policies pertaining to intellectuals. The serious lack of farm technicians in rural villages should arouse the serious attention of CCP committees and governments at all levels. Statistics show that in Jiangxi Province, there are only 1.3 farm technicians per 10,000 peasants, and for every 10,000 mu of farmland there are only 1.2 farm technicians, greatly below the national averages. Many places have reported that because of the shortage of farm technicians, good experiences cannot be summarized and new techniques cannot be spread. Consequently, we must strive on the one hand to operate well the existing agricultural institutions of higher learning and the secondary schools specializing in agriculture to train up with all possible speed the various kinds of technicians that the rural villages need. On the other hand, it is necessary to quickly train grassroots rural cadres and production hands and educated youths from among the peasantry to turn them into a major force that can be used in rural villages to promote scientific agricultural techniques, develop production, and carry forward the building of the four modernizations. This is because most of them already possess a certain cultural level, and a considerable number have rather rich practical experience in production. All that is necessary is for us to organize their training in a planned way and quite a few of them will be able very rapidly to become mainstay cadres for the promotion of agricultural technology. The problem lies in making up our minds to do it.

4. Need To Persist in Proceeding From Realities in the Promotion of Science and Technology Making Sure That Methods Are Diverse and Actions Flexible

(1) In the use of diverse forms to popularize knowledge of cotton-growing techniques, it is necessary, first of all, to run technical training classes level by level. Right now Jiujiang Prefecture is training 70-odd commune cadres, and every county has trained once all cadres above the production brigade level. The amount of training given to production team leaders and heads of household below the commune level has been even greater. Second in use of broadcasts, notices on techniques, night schools, wall newspapers, scientific and technical reports, technical advice, the printing of materials, technical discussions, and technical symposia, 10 different forms that the masses delight in hearing and seeing, to wideranginly publicize knowledge about cotton production and about new cotton growing techniques, and to summarize and exchange experiences.

(2) Establishment of scientific cotton planting "demonstration households," and "link-up households" [presumably households in which compensation is linked to output] lined to cadres staying at selected grassroots units to help improve work and gain first hand experience for guiding overall work. In Jiujiang Prefecture today, generally every production team has one or two households that are "demonstration households" for the growing of cotton and "link-up households" with links to cadres. An overwhelming majority of them are locally outstanding in production and constitute a vanguard in rural study of science, performance of scientific research, and in application and promotion of scientific techniques. The establishment of these demonstration households and link-up households has not only played an active role in the promotion of scientific production techniques in all areas by drawing on experience gained at key points, and in spreading techniques from households to villages, but has also changed cadre workstyles and cemented relations between cadres and the masses to play to a major role in giving impetus to all kinds of work in rural villages.

(3) Trial specialized technical contracting. Acting on the principle of "centralization of whatever should be centralized, and decentralization of whatever should be decentralized, and from a foundation of disease prevention and insect pest eradication for plant protection, each of the counties in Jiujiang Prefecture have done centralized monitoring of insects, centralized purchasing of pesticides, centralized formulating of pesticides, centralized direction, centralized action, and decentralized household by household use of pesticides for "five centralized and one decentralized" in active promotion of technical measures through specialized technical contracting. Last year Yongxing Commune in Yongxiu County organized a plant protection service company, which contracted disease prevention and insect pest eradication tasks for the commune's entire 5,000 mu of cotton fields. The practical result was a 44.7 percent decline in the per mu cost of pesticides, a more than 94 percent increase in effectiveness of prevention and control, and a 45 percent increase in cotton yields, which passed the 100 jin per mu mark for the first time.

Right now a mass craze for studying science, using science, and discussing science has sprung up vigorously in the farflung rural villages, and reliance on science to win high yields has become an inexorable trend in the development of agriculture. We leading comrades at all levels must courageously shoulder the heavy burden of developing agricultural production throughout the province, and make the individual contributions we should make to the modernization of agriculture.

9432
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SUMMER GRAIN PROCUREMENT INSTRUCTIONS GIVEN

Yinchuan NINGXIA RIBAO in Chinese 8 Jul 82 p 1

[Article: "Grain Departments at All Levels Called Upon To Do a Good Job in Preparing for Summer Grain Procurement and Storage; Autonomous Region Grain Bureau Holds Summer Grain State Procurement Conference"]

[Text] At the end of June, the Autonomous Region Grain Bureau convened a regionwide summer grain state procurement conference, which called upon grain departments at all levels to do a good job in the various preparations required for storage of grain and edible oils, and to assure fulfillment of this year's summer grain state procurement quotas.

The conference acknowledged that the summer grain production situation in the Yinchuan area of the region is very good. If no disasters take place, it is anticipated that a bumper grain harvest will be reaped. In accordance with state requirements and base figures set by the autonomous region for household assumption of full responsibility for task completion, each of the counties in the Yinchuan area will be able to fulfill or overfulfill this year's summer grain in terms of state procurement, purchase, and quota overfulfillment. Consequently, all city and county grain departments must make all necessary preparations to accept the grain and to cope with the high tide of summer grain going into storage.

The conference pointed out that inasmuch as more than 90 percent of rural villages in the autonomous region have instituted production responsibility systems of large-scale assignment of responsibilities, following the change from sales of grain to the state by production teams to sales to the state by individual households, the work involved in taking in grain for storage has increased tens or several tens of times. All levels of grain departments are to organize sufficient manpower and material resources, delineate areas and designate sites, forecast sales, arrange to take in all that arrives, remove all grain on the day of receipt, and complete the movement of summer grain to storage in an organized, planned, and orderly way. In addition, policies on the setting of prices on the basis of quality are to be enforced strictly, and there is to be no depreciation of quality in order to drive down prices, nor is there to be any jacking up of quality in order to raise prices. Final accounting for grain and oil purchases is to be done on the basis of specific regulations from individual county CPC committees and people's governments. Peace preservation and public security work is to be intensified to avoid accidents of various kinds.

The conference noted that in order to assure smooth completion of summer grain state purchase tasks, all jurisdictions should intensify grain market management. Any who have not fulfilled their summer grain state procurement quotas may not take summer grain to markets. Commune member households and production teams that have fulfilled or overfulfilled their summer grain state procurement quotas and who have surplus grain they want to offer for sale, may sell to granaries at negotiated prices. During the period when grain is going into storage, summer grain markets are not to be open so as to assure smooth performance of the "three summer jobs" [harvesting, planting, and field care] and overfulfillment of summer grain state procurement tasks. Commodity grain and oil can be handled only by grain departments, and other departments or units may not intervene, nor may they go into rural villages and country fair markets without authorization to purchase grain and oil. In all jursidictions, industrial and commercial administration and management, grain, public security, and transportation departments are to coordinate with each other, administer grain and oil markets, and resolutely strike down speculation and profiteering. All cases involving use of motorized vehicles in the resale of grain and oil in violation of the law shall be strictly dealt with following investigation and apprehension. Personnel who render service in the apprehension of speculators, profiteers, and those involved in the smuggling of grain and oil are to be given specific bonuses by grain departments.

The conference asked that following overfulfillment of summer grain state procurement quotas, grain departments at all levels promptly organize personnel to go into markets and into communes and brigades to actively carry out purchases of grain and oil at negotiated prices in accordance with the principle of slightly lower than the market price prevailing in areas along the way for active performance of grain and oil purchases at negotiated prices. All grassroots level granaries (or stations) are to publicize the negotiated grain purchase method and prices so that the broad masses will not worry.

9432
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ECONOMIC EFFECTIVENESS OF MECHANIZATION EMPHASIZED

Yinchuan NINGXIA RIBAO in Chinese 8 Jul 82 p 2

[Article by Feng Longjiang [7458 7893 3068]: "Take Firm Grip on Ways and Links for Improvement in Economic Effectiveness of Farm Mechanization"]

[Text] In his government work report to the Fourth National People's Conference, Comrade Zhao Ziyang pointed out that "When we think about economic problems, it is necessary to use as our point of departure improvements in economic effectiveness." Farm mechanization work is no exception. This goal is synonymous with our mechanization of agriculture.

Numerous factors enter into the economic effectiveness of farm mechanization, and ways in which to improve its economic effectiveness are also many faceted. However, many years practice have shown the crucial importance of whether or not agricultural mechanization programs are correct.

As a result of nearly 30 years of effort, our agricultural mechanization endeavors possess a fine foundation. The "Summary of the National Rural Work Conference" pointed out that "China's farmland system is complex; work forces are legion; collective economic forces are weak, and agricultural mechanization must be done selectively and step-by-step. For a considerable time in the future, mechanization, semimechanization, and use of hand tools must proceed in tandem; manpower, animal power, and electro-mechanical power used at the same time; and a combination of engineering measures and biological techniques employed at the same time. All jurisdictions should promote appropriate techniques and intensive farming on the basis of their own circumstances." This will be the program for the mechanization of China's agriculture for a fairly long time to come. It is compatible with both national circumstances and with circumstances in Ningxia Province, and is, without doubt, the agricultural mechanization program that the Ningxia Autonomous Region will follow for a fairly long time to come. Let us speak of our own region. Economic and natural conditions differ from one county and municipality (suburbs) to another. In addition, crop patterns and farming techniques are complex. There have to be priorities for agricultural mechanization, and step-by-step selective promotion of proper farm implements. In rural villages within the Huang He diversion irrigation area, economic standards are fairly high and natural conditions fairly good, so mechanization can proceed a little faster. But in the arid mountain regions, economic conditions are poor and peasant purchasing power low. There is drought with scant rain, and the heavens must be relied upon to get enough to eat, so mechanization will be slower. Even within the same prefecture and same county or municipality, inasmuch as objective conditions differ and the extent to which peasants demand mechanization differs, the speed of mechanization will differ.

At the present time the central tasks in the management of agricultural mechanization are as follows: The need to place economic effectiveness from agricultural mechanization in the paramount position, and to make a focal point of the preservation of collective property and good management and use of existing farm machinery. In addition, it is necessary to selectively promote proper use of farm machines on the basis of needs and capabilities.

We already possess a fairly impressive number of farm machines. As of the end of 1981, the autonomous region owned more than 23,500 agricultural tractors of various kinds, and farm machinery horsepower totaled 1,246,000 horsepower, accounting for 80 percent of combined machine and animal power, figuring 440,000 draft animals (converted into 330,000 horsepower). For each 10,000 mu of cultivated land, there is 375 horsepower provided by tractors. This is higher than the 360 horsepower national average. However, since these machines are scattered on communes and brigades throughout the region, and since peasant cultural and technical levels are still relatively low and differences in objective conditions fairly great from place to place, many difficulties and problems exist in the management of their use, in supply services, in technical training, in equipment maintenance and repair, in their safe use in production, in technical promotion, and in scientific research on farm mechanization. In addition, institution of diverse responsibility systems for use and management of farm machines, and development of the purchase by groups of peasant households and individual peasant households of small farm machines makes good management and use of these farm machines a very strenous task. In the course of the restructuring of the rural economy, no reduction has taken place in farm mechanization management duties; rather it has become more strenuous. Not only can it not be weakened, but rather it should continue to be strengthened. Specifically, the following is to be done:

First, continued building and perfecting farm machine use and management responsibility systems. This is a key link in the region's current farm mechanization management work. All levels of farm machine management departments should help farm machine stations (service stations), and teams further summarize experiences in the division of profits and the division of income in the responsibility system whereby anticipated output is linked to remuneration, and gradual promotion of these experiences. Good solution to existing abuses in "responsibility contracted for one thing, but no concern being shown for 100 others" (contracting of farm machines to individuals) with promotion of a contract system of "one, responsibility for fields; two, responsibility for money; three, responsibility for machine condition; and four, responsibility for safety," In production teams practicing "double contracting of responsibilities" [fixing output quotas on a household basis with peasant households assuming full responsibility for task completion], particularly in the case of large and medium farm machines under centralized collective management, effectiveness should play a role.

Second, planned readjustment and reorganization of commune farm machine stations. Where conditions permit, commune farm machine management stations may be gradually merged with farm machine stations into management and service stations to render all around services in supply, management, repair, farming on commission, training, and credit, with independent accounting and responsibility for their own profits and losses, making them play a better role.

Third, efforts to improve and intensify farm machine technical training, with gradual spread of technical training on small farm machinery to satisfy to the maximum extent possible peasant demands to learn farm machine technology. Planned rotational training of farm machine management padres at all levels, and preparing teachers for municipal and county farm machinery schools in order to create conditions for improvements in farm machine management standards and quality of technical training.

Fourth, institution of the coexistence of various forms, with collective farming predominating to bring into play the enthusiasm for mechanization of both collectives and individuals. In addition to managing and using well collectively administered farm machines, all levels of farm machine management departments should actively help the peasants manage and use farm machines that groups of households or individual households have purchased.

Fifth, strive to improve the technical state of readiness of tractors and internal combustion engines, to strengthen management of fuels, and to actively promote new techniques for saving fuels to give further impetus to fuel conservation. It is also necessary to devote further efforts to farm machine zoning work, technical promotion work, safe production, and to technical and economic research on farm mechanization.

In addition to good management and good use of exsiting farm machines, we should also realize that as a result of the implementation of rural economic policies and the institution of various production responsibility systems that have advanced agricultural production and the gradual growth of the rural economy, and have gradually increased peasant purchasing power, some suitable farm implements are required. It is suggested that departments concerned organize their production and supply, and give attention to improving their quality and to lowering their cost so as to satisfy peasant needs for smallness, goodness, and small expenditure of money.

9432
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NINGXIA

INCREASED GROWING OF SUGARBEETS REPORTED

Yinchuan NINGXIA RIBAO in Chinese 8 Jun 82 p 1

[Article: "Huang He Diversion Irrigation Area Sugarbeet Growing Area Tremendously Increased"]

[Text] Thanks to the serious attention given by all levels of leaders, this year the area planted to sugarbeets in the Huang He diversion irrigation area has increased tremendously. Incomplete statistics show a total of more than 112,000 mu sown to sugarbeets this year (more than 36,000 mu of which were intercropped), more than double last year's area.

This February the Autonomous Region Bureau of Agriculture and the Agriculture and Land Reclamation Bureau jointly convened a sugarbeet production conference to discuss and solve some problems in production and state purchases of sugarbeets. The Autonomous Region People's Government then issued "Notice on Attention to Sugarbeet Production," requiring sugarbeet producing areas to actively develop sugarbeet production. All major sugarbeet production counties (or prefectures), and state farms used various means of transmitting the spirit of the conference to the masses. By way of solving peasant difficulties in selling sugarbeets, Helan County decided to establish purchasing points in Xigang, Panchang, and Ligang communes, which relieved commune member apprehensions and resulted in the county overfulfilling its sugarbeet planting tasks. Yongning and Qingtongxia counties also convened on-site sugarbeet production conferences to which they invited old peasants and peasant technicians to impart their experiences and techniques for sugarbeet production. In order to increase sugarbeet sprouting rates, Nuang He diversion irrigation area state farms disinfected seeds with pesticides. The Yinchuan Sugar Refinery sent 51 cadres and workers to the grassroots levels to help implement plants and to set up more than 10 sugarbeet seed supply points as a convenience for the masses.

Right now the young sugarbeet seedlings are growing rather profusely. As temperatures climb, xiangjia [585E ?] and moles increase. All jurisdictions are intensifying field care and working at the prevention and control of diseases and insect pests.

9432
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WATER CONSERVANCY PROBLEMS ANALYZED

Use of Reclining Wells

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Text] In the course of struggle against drought this year, Dongdianhou Production Brigade in Longquan Commune, Mouping County built a reclining well that was 20 meters long and could raise ground water at a rate of more than 100 cubic meters per hour. It was constructed by digging a ditch to collect water in a river bed and lining it with stones. Its shape resembled a siphon layed on its side, the difference being the need for seepage. It has five advantages.

1. It collects much water and is very effective. No walls to prevent seepage are built in reclining wells, and the cross section area for seepage into the well is large. Underground water flow in the upper and lower reaches, and above ground flow in the upper reaches is able to seep into this well; thus, its capacity to intercept and collect underground flow is great. All other circumstances being equal, its ability to intercept and hold water is several times greater than any other method.

2. Construction is simple and investment is economical. Reclining wells use loose stones layed up without mortar, the stones encompassing three sides. Little money is spent and it can be built by 80 to 100 people.

3. High adaptability. All that is needed is a sandy layer and any river can be used whether, large, small, new or old. It is not affected by topography or other structures.

4. It can be transformed from a temporary project to combat drought into a permanent project for combating drought. When fighting drought, a temporary water catching ditch or pool is dug in the bottom of the river bed. If, during use, the water table drops, it may be filled with stones. Later it can be used every year for a saving in manpower required for digging, and fuel needed to pump water.

5. It saves land, does not impair the flow of floodwaters through the river bed, does not affect the farming of the fields, and the project is out of sight and not easily damaged.

The building of reclining wells is very easy. They are made of two main parts: a corridor to channel water and a verticle shaft to hold water. The corridor to channel water is the reclining part of the well. It is like the strainer in a well, i.e., the flared pipe [5363 4619] part. The function of this part is to collect underground flow. Its principal requirements are sturdiness with no collapsing or toppling, permeability to the flow of water on three sides, and allowing silt and water to enter but not allowing sand to pass. The function of the vertical water holding shaft is to connect the corridor to channel water to the ground surface so that the siphon on a water pump can go through into the corridor channel so the water can be pumped.

Centralized Management of Projects

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Text] Yanggu County has improved its ability to fight drought through the process of perfecting its production responsibility systems of double contracting [fixing output quotas on a household basis, peasant households assuming full responsibility for task completion], by giving attention to making the most of the superiority of the collective economy, through centralized management and use of large water conservancy facilities and machines, and by properly readjusting some scattered fields for which responsibility had been assigned. Despite this year's serious drought, a bumper wheat harvest was reaped from the county's 350,000 mu.

In Yanggu County, more than 90 percent of all production teams have instituted the "double contracting" production responsibility system, which has stimulated the enthusiasm for production of commune members. However, some communes and brigades divided some of their large water conservancy equipment among commune members with the result that they were unable to play their full role. Because it was difficult to use some of this equipment, it was allowed to lie idle, which hurt the "double protections" in fighting drought. Since the lunar new year, the County CCP Committee and county government have organized cadres and the masses for diligent study of the "Minutes of the National Rural Work Conference," and have helped communes and brigades to adapt general methods to specific situations to harmonize the relationship between centralization and contracting, putting under centralized management and use by production teams all large water conservancy facilities and equipment. For newly built water diversion channels, bridges, culverts, and sluice gates, pumping stations, underground conduits, and such mainstay projects, depending on the size of tasks and the size of the area receiving benefits, the production team set the amount of labor each member of the workforce had to perform, work being done on the basis of available workforces with responsibility on the basis of the number of mu served. Management and care of all water conservancy machines was the responsibility of persons specifically designated by the production team, who took care of specific machines, had specific tasks, had specific expenses, and who received specific compensation and bonuses. Watering was under the centralized direction of the production team, and vocational teams or responsibility households took turns using it. Whoever used machines was responsible for the machines. Diesel fuel expenses and maintenance and repair expenses were the responsibility of the production team. In addition, the masses were indoctrinated in an increased conception of the collective and in doing a good job of banding together for mutual help. As a result of the use of these methods, the in-service rate for pump wells throughout the county rose from the former 67 percent to 90 percent, and benefits obtained from individual wells rose from the former average 50 mu to 70 mu.

By way of adapting to large water conservancy facilities and pump well watering, this county also readjusted and merged some fields for which responsibility had been assigned that were overly scattered or exceedingly small. Before fall planting last year, a method was universally instituted to make conversions to standard mu, i.e., fields were converted to standard mu on the basis of their soil quality, soil fertility, distance from the village, production conditions, and yields over the years, and wheatfields were appropriately concentrated. Following readjustment, the county's responsibility fields declined from the former somewhat more than 70,000 plots to 4,100 plots and the water utilization rate was increased by one-third over what it had been. The wheatfields of Guodiandun Commune had been divided into 2,520 plots for the past several years, one plot in the east and another in the west. Ditches from wells had to travel around several corners before reaching the fields with very much runoff taking place along the way. Last year at fall planting time, this commune concentrated its scattered fields into square plots, reducing the number to 210, each plot divided by well defined ridges of earth. Where formerly the water recycling time had been more than half a month, it was now only 7 or 8 days. Faced with this year's severe drought, this commune made full use of the role of water conservancy facilities, the 14,000 mu of wheat in the commune receiving sufficient water on time. Yields reached 630 jin per mu, a 212 jin increase over last year.

Construction of Water Projects

Jinan DAZHONG RIBAO in Chinese 6 Jul 82 p 2

[Text] In a new situation of institution of production responsibility systems, Taian Municipality's rural villages have relied on collective strength to continue to do a good job of water conservancy construction, effectively increasing its abilities to withstand natural disasters.

Of Taian Municipality's 6,221 basic accounting units, 94.9 percent have set up "double contracting" responsibility systems linking planned output to workforces. Under these circumstances, how could the capital construction of farmland water conservancy continue? All communes and brigades used a system of several centralizations. One was adherence to centralized planning. Proceeding from the foundation of a general survey of water conservancy resources, and following the principles of adapting general methods to local situations and acting in accordance with strength and ability, they planned one by one what projects would be built at what places and at what times. Second was adherence to centralized assignment of workforces. In units practicing the linking of expected output to workforces and fixing output quotas on a household basis, production brigades and production teams took account of the workforces available in each household in planning for workers on capital construction projects and where they would be assigned in any given year. In units practicing large scale assignment of responsibilities to individual households, capital construction work was evenly spread among workforces, those exceeding quotas receiving bonuses, and those failing to complete quotas being penalized. Third was adherence to the funds and materials required by water conservancy projects that had been centrally obtained by the collective. In this way the superiority of the collective economy was brought into play, and smooth progress on all water conservancy projects was assured. After the Mujiazhuang Brigade in Zhuyang Commune instituted a responsibility system linking expected output to workforces, the collective invested 27,000 yuan in a water conservancy construction plan, bought cement, steel rods, and such materials, centralized organized workforces for work, and very rapidly built a pumping station that had a 250 meter long aqueduct and a 40 meter long stone ditch to irrigate an area of 500 mu. Along this tract of fields, not only was the wheat watered twice this year and a fine harvest won, but the spring and summer sown crops were also sown on time. After Ligu Production Brigade in Daolang Commune instituted a responsibility system of large scale assignment of responsibilities to each household, it apportioned work on capital construction on the basis of workforce strength, and provided for an 0.80 yuan payment by the collective for each additional worker supplied for capital construction, with an 0.80 yuan fine for each capital construction worker not provided. This stirred commune members enthusiasm for participation in water conservancy construction and, since last winter, commune members throughout the production brigade joining in the capital construction work have numbered 10,000. They have sunk five new pump wells and have leveled part of the land for new increase in ability to fight drought.

In the course of the water conservancy construction, the Municipal CCP Committee and municipal government provided appropriate support to those units experiencing genuine difficulties, thereby assuring a large amount of municipal water conservancy, rapid progress, and high benefits, not only completing slop protection on Shengli Reservoir, improvements to the Shengli irrigation channel, construction of the western trunk channel for Caishan Reservoir, the grouting of the Huangqian Reservoir dam, and such large and medium size project construction and equipping, but all sorts of small water conservancy projects also got under way in extremely large numbers. As of mid-June, throughout the city 345 pump wells had been newly sunk, 525 pump wells equipped, and 2,405 small wells newly sunk. A total of 1,085 projects involving the building or repair of reservoirs, pond dams, pumping stations, river diversions or spring diversions had been started, and 651 of them completed. Newly build irrigation ditches numbered 479 totaling 188 kilometers in length. The building of these projects has expanded the irrigation area by 55,000 mu and improved an irrigation area of 113,000 mu.

9432
CSO: 4007/502

SHANDONG

SPECIALIZATION ENCOURAGED FOR COTTON INSECT CONTROL

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Article: "Encourage Specialized Machine Control of Insect Pests in Cottonfields"]

[Text] Insect pests persist for a long time and spread fairly quickly while cotton is growing. Left uncontrolled for a few days, they become a disaster. As a result, much manpower and intensive labor is required to control insect pests, and chances for accidental poisoning from pesticides are also fairly great.

In order to solve this problem, ever since 1979 the Provincial Farm Machinery Bureau has run pilot projects in the mechanization of cotton plant protection, principally on insect control, at seven major cotton producing counties. A look at the pilot project situation shows that the best way to do a good job of controlling insect pests of cotton and avoid the accidental poisoning of people is to institute specialized machine prevention and control in a change away from every family buying pesticides, every household storing pesticides, and every person controlling insects. Practice has demonstrated the advantages of specialized machine control of insects to be as follows: First is high labor efficiency, prompt prevention and control, and good effectiveness in killing insects. A single hanging-arm sprayer can spray 250 mu per day, and a single Taishan 18 misting machine can spray 70 mu per day, a 55 fold and a 14 fold increase in labor effectiveness respectively, as compared with hand methods of insect control. Effectiveness of prevention and control is better than hand methods. Second is a saving in labor and expense. Specialized machine control of insects results in a decline in expenses by about 20 percent as compared with hand methods, and a more than 90 percent saving in labor. Two years experience at the Laozhaozhuang Production Brigade in Laozhaozhuang Commune, Linqing County has shown that it costs between 10 and 12 yuan per mu to control insects by hand while the cost for specialized machine control of insects is 8 to 9 yuan per mu, between 2 and 3 yuan less than hand methods. Formerly this production brigade annually had more than 200 people engaged in control of cotton insects. This amounted to more than 30 percent of the brigade's total workforce. Ever since 1980, 2 hanging-arm sprayers have been used requiring only 6 fairly highly skilled operators to do this task for a saving of more than 95 percent on labor.

Third is benefits in preventing accidental poisoning of people. Control of insects using specialized machines results in a great reduction in the numbers of people coming in contact with pesticides. Furthermore, operators undergo training and possess a certain amount of plant protection knowledge and operating skill. Additionally, they are well protected, so safe production can be done.

9432
CSO: 4007/502

PROVINCIAL CONFERENCE ON MOUNTAIN REGIONS HELD

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 1

[Article: "Provincial Mountain Region Work Conference Held At Wulian. Treats Development and Building of Mountain Regions as a Strategic Task. Provincial CCP Committee and Provincial Government Comrades in Charge, Bai Rubing [4101 1172 0393], Li Zhen [2621 2182], and Zhou Zhenxing [0719 2182 5281] attend Conference"]

[Text] On 3 July, the provincial CCP Committee and provincial government convened a provincial mountain regions work conference at Wulian County. Provincial CCP Committee First Secretary Bai Rubing hosted the conference. Provincial CCP Committee secretary and Deputy Provincial Governor Li Zhen, and Deputy Provincial Governor Zhou Zhenxing, comrades in charge in all prefectures, municipalities, counties, and relevant units directly subordinate to the province, as well as representatives from some advanced communes in some mountain region communes and brigades, for a total of 264 delegates, attended the conference.

Since the Third Plenary Session of the 11th Party Central Committee, CCP committees and government at all levels in the province have diligently carried into effect a series of Central Committee programs and policies on economic construction, and in Yantai and Weifang prefectures, where conditions were fairly good to begin with, the march toward prosperity has been hastened. The four northwestern prefectures, which have long been in a backward state, have taken great strides to catch up. Although many changes have taken place in the mountain regions of south central Shandong, relatively speaking they are prefectures in which economic development is still relatively weak. In Shandong Province, mountain regions account for more than one-third of the total area. They cover a vast land area and contain a large population. Resources are abundant and the potential is very great. Most of these places are old revolutionary bases, which made a relatively great contribution during the war years, but in which the standard of living of the masses today is still relatively low. Consequently speedy transformation of the situation in mountain regions, development of the mountain region economy, and helping mountain region to become prosperous has become a decision of strategic significance in the deepgoing implementation of the party's line, programs, and policies since the Third Plenary Session, and in the further readjustment of the structure of agriculture to hasten rural economic construction. The conference acknowledged that only by doing a good job of developing and building mountain regions, and particularly doing a good job of planting trees for afforestation, could erosion be effectively prevented, the ecological balance be maintained, and all around development of economic diversification in farming, forestry, sideline occupations, and fisheries be advanced to solve the province's "hemiplegia" problem in agriculture. Building of the mountain regions relates to the overall situation of the province as a whole, and possesses major economic and political significance. Formerly construction of the mountain regions did not develop very fast in some places, and though there were many reasons for this, the main ones were slowness to understand and insufficiently vigorous action on the part of leaders. The current conference is a major step taken by the Provincial CCP Committee and the provincial government toward hastening change of the situation in mountain regions. The conference called upon relevant units throughout the province, and all levels of CCP committees and government in mountain regions, to intensify the sense of urgency and sense of responsibility about hastening mountain region construction and to make construction of mountain regions a focus of their work, to diligently summarize experiences, to rouse and lead the broad masses of cadres and people, to come to know the mountain regions, to warmly love the mountain regions, and to build the mountain regions. In the building of the mountain regions, Wulian County has done a fairly good job. They have a correct program that fits in with the spirit of the Third Plenary Session and the county's realities; they have an effective and worthwhile plan for beginning the building of the mountain regions; and they have a leadership team that struggles arduously, dares to innovate, and is united in combat. Consequently, fairly great changes have taken place in the face of the Wulian mountain region, and rather rich experiences have been accumulated about the building of mountain regions. This conference was held for the purpose of summarizing and exchanging advanced experiences from everywhere, to study and spread the experiences of Wulian County, Ying County, and other places, to increase understanding and unify mentalities, to discuss programs, policies, plans, and actions to be taken to build mountain regions, and to study how actions are to be implemented so that both agricultural production and the entire national economy in Shandong Province will be able to develop more healthily and more quickly.

On the second day of the conference, comrades in charge at Wulian County, Ying County, and Jietou Commune in Wulian County gave briefings on their experiences. Delegates to the conference made separate inspections of some advanced units in Wulian County and Ying County before the conference opened. Changes in the natural appearance of Wulian County, the fruit hanging heavy in apple orchards, and the Panshan Highway stretching in all directions in Wulian County, and the large areas of lush and rapidly growing high yield forests along the rivers of Ying County left a deep impression on them.

9432
CSO: 4007/502

PROVINCE REPORTS OVERALL GRAIN SURPLUS

Chengdu SICHUAN RIBAO in Chinese 21 Jul 82 p 1

[Article: "Very Great Improvement in Province's Grain Procurement and Marketing Situation. Yet Another Major Result of the Carrying Into Effect of the Spirit of the Third Plenary Session. Virtual Balance in National Grain Income and Expenditures With Slight Surplus; Great Increase in Peasant Grain Rations With Virtual Achievement of Only Procurement From and No Sales To Any Given Production Team"]

[Text] Very great improvement has taken place in the grain procurement and marketing situation in Sichuan Province following several consecutive years of increased grain output. National grain receipts and expenditures are virtually balanced with a slight surplus; peasant grain rations have risen tremendously; and the longstanding rural problems of both grain procurement and grain sales has been solved, with virtually only procurement from and no sales to any given production team. This has been yet another major result of all of the people in the province working under the leadership of all levels of CCP committees and government conscientiously to put into effect rural economic policies and to promote production responsibility systems for vigorous development of agricultural production in the wake of the Third Plenary Session of the 11th Party Central Committee.

During the period of the 10 years of internal turmoil, the province's agricultural production sustained serious damage, and a substantial amount of state purchased grain had to be sold back to rural villages. In more than half of all production teams there was both procurement and sales, and the lives of the peasants were extremely hard. In the province's national granaries, more grain went out than came in, and grain for consumption had to be brought in from elsewhere. Following the smashing of the "gang of four," and particularly since the Third Plenary Session, under a situation of Central Committee liberalization of policies and a program of rest and recuperation, faced with extreme difficulties with grain in the province, the party and government adopted a series of economic measures. One was a reduction in state grain procurement quotas of many years standing for poverty stricken brigades in northwestern Sichuan and in some prefectures; a readjustment of state grain procurement base figures for production teams that provided fairly large amounts of commodity grain, making them procurement in excess of quotas; and arranging for reduced purchases of grain but greater sales of grain to mountain regions, to minority nationality areas, and to production teams that had been poverty stricken for a long period of time. In addition both state and excess procurement quotas were stabilized, no change guaranteed for several years. When the state needed to increase grain procurement, it held discussions with the peasants and offered preferential prices, taking the grain from communes and brigades that had increased yields or a bumper harvest.

Between 1977 and 1981, grain production increased year after year in the province. Grain output increased by 1.58 trillion jin during these 5 years for an average 3.2 billion annual increase. Such speed of development had been unprecedented since founding of the People's Republic. Rural per capita average distribution of grain rations rose from 369 jin in 1976 to 552 jin in 1981. If grain obtained from private plots and award grain sales for the sale to the state of agricultural and sideline products were added to this, the actual amount of commune member grain rations was more than 600 jin. For the overwhelming majority of peasants, the problem of sufficient food and clothing had been substantially solved. Some well-off families had a certain amount of reserves. The longstanding rural problem of both procurement and sales had been solved for the virtual realization of a situation of only procurement from but no sales to any given production team. The state's grain storage in the province also increased. In addition, as a result of purchases and sales of grain at negotiated prices and liberalization of country fair trade policies, surpluses and shortages in different places were ironed out, prices were held down, and the many needs of the masses for grain were satisfied. Rural villages had surplus grain and raising of the six livestock animals flourished with further advances taking place in market activity, which improved urban supplies of agricultural and sideline products, and grain rations for urban people were everywhere more than enough.

9432
CSO: 4007/521

AUTHOR: ZHU Rong [2612 2837]

ORG: Deputy Minister, Ministry of Agriculture, Animal Husbandry, and Fishery

TITLE: "Conscientiously Perform the Work of Cost Accounting of Farm Products"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, 5 Aug 82 pp 2-4

ABSTRACT: On the basis of cost accounting statistics of 239 units, when the year 1981 is compared with that of 1980, agricultural income is increased by 8.7 percent and agricultural expenditure by 0.8 percent. The ratio of farm expenditure in farm income is reduced from 33.3 percent to 30.9 percent and the agricultural net income is raised by 12.6 percent. For every 100 yuan spent for agriculture, the net income is 224 yuan, amounting to an increase of 11.7 percent. The amount retained by the collective body is increased by 0.8 percent. The distribution to commune members is 145 yuan per person, amounting to an increase of 10 percent. Cost accounting is the basic link in improving the business management and raising the economic benefit. It forms the basis for arranging the benefits of the 3 elements of the state, the collective, and the individual member in a fair manner. Last year, in Yuanjiang County of Hunan, the yield of rape of one household was 182 jin/mu, at a cost of 46 yuan/100 jin; that of another household was 127 jin/mu, at a cost of 54 yuan/100 jin. This was due to the fact that the farmer added 5.9 man-day per mu for intensive cultivation and 60 tan of farm fertilizer. Cost accounting demonstrats the beneficial effect of the technique of the farmer to point it out as the model technique of cultivating rape next year.

AUTHOR: None

ORG: Editorial Writer of the Journal

TITLE: "There is a Need for Changing From Simple Grain Cropping to Multiple Products Operation"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, 5 Aug 82 pp 5-6

ABSTRACT: Some say the development of multiple products in agriculture will cause the grain acreage to shrink to result in a reduction of the quantity of grain to be purchased [by the state.] With China's one billion population, grain production is indeed extremely important. The paper claims that the goal of multiple products may be attained without sacrificing grain production by practicing the following: (1) A reasonable arrangement of grain crops and economic crops to increase the yield of both; (2) Barren mountains, grassy slopes, streams, and lakes form the country's great untapped resources for developing multi-products; (3) The development of edible oil, fruits, grass-eating animals, and aquatic products will supplement the grain requirement and change the diet habit of the people.

AUTHOR: None

ORG: None

TITLE: "Cost Accounting is Absolutely Necessary"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, 5 Aug 82 p 29

ABSTRACT: Most recently, the national agricultural products cost accounting training course, conducted by the Ministry of Agriculture, Animal Husbandry, and Fishery, commenced for the 3rd time. The work of cost accounting for agricultural products had its beginning no earlier than 1979, when the National Agricultural Committee requested the Ministry of Agriculture to establish experimental points all over the country. Practice of these 2 years has proved that under identical conditions, the communes and brigades with cost accounting show better economic benefits than those without. Some believe that production responsibilities are now linked to individual households; cost accounting has become useless, as the household will suffer from its own wastefulness. This is a misunderstanding. The system of production responsibility does not replace cost accounting, which is to provide scientific basis and information for the use of management. When a county is to establish quotas for production, labor, cost limit, etc. it must have some indices to determine whether the stipulations of the contracts of some commune-brigades are too high or too low. In the past 2 years, there were about 7,000 test points for agricultural cost accounting, including the test points for material-expenditure. The experience may not be sufficient for it to be generally extended, but the party must include this in the daily agenda of committee work and increase the number of test points wherever the conditions permit.

6248
CSO: 4011/215

AUTHOR: XU Zhifang [6079 1807 2455]
MAO Zhi [5374 2535]
ZHAO Lingshuang [6392 3781 3642]

ORG: All of Wuhan College of Hydroelectricity

TITLE: "Study on Mathematic Model to Compute Evapotranspiration of Rice Field"

SOURCE: Beijing SHUILI XUEBAO [JOURNAL OF HYDRAULIC ENGINEERING] in Chinese No 5, May 82 pp 1-10

TEXT OF ENGLISH ABSTRACT: In this paper, the influence of meteorological factors on vapotranspiration of rice field is analyzed from the point of view of the soil-plant-atmosphere continuum system in the field environment. Based upon this analysis, a mathematic model to compute evapotranspiration of rice field is established, taking into consideration such meteorological factors as the air temperature, the sunshine time, the wind velocity, and the saturation deficit. Results of the theoretical calculation is verified by experimental data of five irrigated areas of Hubei Province and the Chuxian Prefecture of Anhui Province.

6248
CSO: 4011/204

AUTHOR: CHEN Zuoyi [7115 0155 5030]

ORG: Virus Section, Shanghai Biochemistry Institute, Chinese Academy of Sciences

TITLE: "Advances in Research on Yellow Plant Diseases in China"

SOURCE: Tianjin ZHIWU BAOHU [PLANT PROTECTION] in Chinese No 1, 1982 pp 7-9

ABSTRACT: The most frequent symptoms of yellow plant diseases are clustering of branches and leaves, small leaf size, dwarfism, atrophy and growing of foliage instead of flowers; one disease of this kind is mulberry atrophy; its pathogen was discovered in 1967 by a Japanese researcher and was found to be Mycoplasma-like organisms (MLO). Thus far, nearly 100 varieties of MLO have been discovered. In 1970s, Chinese researchers reported cases of MLO caused plant diseases; in 1978, a breakthrough was achieved in China when an international debate of more than two decades' standing concerning the pathogen of orange xanthoma was solved as being caused by Procaryofe-like organisms (PLO). In 1980, Wang Xigai (3769 2649 2818) et al. reported that the pathogen of curled leaf disease of seaweed is caused by Spironema-like organisms (SLO); this was the first time in the world that SLO had been discovered in aquatic grasses. Finally, the author stressed the isolation and culture of MLO as a major challenge facing the world today.

AUTHOR: FAN Shirong [5400 2514 1369]

ORG: Institute of Plant Protection, Guangdong Provincial Academy of Agricultural Sciences

TITLE: "A Preliminary Report on the Reaction of Rice Varieties to the Rice Blast Physiological Races in Guangdong Province"

SOURCE: Tianjin ZHIWU BAOHU [PLANT PROTECTION] in Chinese No 2, 1982 pp 2-4

ABSTRACT: Once a rice strain with disease resistance and high yield is cultivated over a wide area, Mycorrhizae of rice blast physiological races adapted to the particular strain will multiply and spread quickly, inflicting an epidemic and crop failures. So on the one hand, selective breeding of wide spectrum disease-resistant and high-yield rice strains should be practised; on the other hand, planned rotation and cultivation of different strains can effectively prolong the number of years that these strains can be cultivated. With this purpose in mind, the author conducted a test in 1980 for determining disease resistance in rice strains projected to be propagated in Guangdong Province. A total of 30 specimens of Mycorrhizae representing eight species and 24 races were tested on various rice strains for blast physiological races. Three types of results were recorded: resistance (R), mild resistance (M) and susceptibility (S). Out of 12 rice strains tested, five strains were determined to have more than 63 percent resistance to the 30 specimens of Mycorrhizae tested. These five strains are Taokezao, Baizhenlong 410, Fubao 22, Gunongai 13, and Zhenlong 13. Included are two tables listing the disease resistance of various strains.

AUTHOR: SHAO Derong [6730 1795 3310]

ORG: Hangzhou Municipality Plant Protection and Plant Inspection Station

TITLE: "Analysis of Epidemic Factors of Late Rice Ear Blast in Hangzhou Municipality"

SOURCE: Tianjin ZHIWU BAOHU [PLANT PROTECTION] in Chinese No 2, 1982, pp 5-6

ABSTRACT: The 1980 was the year with the decade's highest epidemic damage of ear blast in late-yielding rice plantings in Hangzhou Municipality; 23 percent of the late-yielding rice cultivation was affected. However, with one-third of the area planted with late-yielding rice, hybrid nonglutinous long grain rice was generally not afflicted with the blast. The author lists four reasons for this outbreak of ear blast: (1) A limited number of strains of late-yielding rice were cultivated year after year over a wide area, thus causing the propagation of blast physiological races among Mycorrhizae. (2) Cold overcast and rainy weather by the time of the growing-ears stage further promotes the epidemic. (3) Heavy and late application of chemical nitrogen fertilizer induces the outbreak of disease. (4) Late seedling transplantation of late-yielding rice weakens the disease resistance of seedlings during rainy weather. The author advocates three measures to combat the epidemic: (1) Select more varied rice strains for cultivation to avoid concentrating on a small number of varieties. (2) Change the field microclimate in order to impede the breeding and infestation of disease germs. (3) Use pesticides to prevent and control seedling blast, ear blast, and leaf blast.

10424
CSO: 4011/224

Rice Cultivation

AUTHOR: LI Linlie [2621 2651 3525]

ORG: Institute of Grain Crops, Yunnan Provincial Academy of Agricultural Sciences

TITLE: "Discussion on Cold Damage to Paddy Rice Cultivation in Yunnan Province"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 1982 pp 16-19

ABSTRACT: Given the low latitude plateau conditions of this province, generally rice yields are high and stable at elevations of about 1500 meters; yields will suffer if the elevation is 300-400 meters higher or lower. The climate is mild, generally unmarked by winter or summer but only a dry and a rainy seasons. Cold weather and rain in the rice ripening time of June through September occasionally reduce the harvest somewhat and even cause crop failures. The author suggests the selective breeding of local cold-resistant rice strains with the early sowing (in March) to utilize the warm sunny spring weather so that rice plants can grow enough heads of grain in June before the frequent rains set in. The background data came from three (1979-1981) Yunnan Province Paddy Rice Cold Damage Scientific Research Conferences.

10424
CSO: 4011/221

AUTHOR: ZHENG Menglin [6774 1125 2651]

ORG: None

TITLE: "Advice on Setting up Seed Banks"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 3, 1982 pp 20-23

ABSTRACT: In several seed banks built in China, the exterior walls were built of Number 25 red brick and plastered with Number 50 cement mortar. Chinese builders know, when the seed storeroom temperature is lower than -40°C, brick structures will fail to withstand the cold after two to three years. So after last year's completion of China's first seed bank in Guangxi, construction and operation experiences were recorded for other buildings of the same kind (in Beijing and Heilongjiang); a plan drawing is shown for a similar building in North China. These buildings are kept at -5°C and a relative humidity of 30 percent. Included are eight figures and one table, listing seed banks in Japan, Soviet Union, United States, Guangxi, and the International Rice Institute in the Philippines.

10424
CSO: 4011/226

AUTHOR: KONG Zhaochen [1313 2507 1368]
DU Naiqiu [2659 0035 4428]
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ORG: KONG, DU of Research Institute of Botany, Chinese Academy of Sciences; ZHANG of Beijing Municipal Bureau of Geology

TITLE: "Vegetational Development and Climatic Changes in the Last 10,000 Years in Beijing"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 2, 1982 pp 172-181

TEXT OF ENGLISH ABSTRACT: In the previous paper, the authors discussed the vegetational and climatic changes in the past 30,000-10,000 years in Beijing. The paper is based on the information of sporo-pollen assemblages obtained from the Gaolizang, Davangzhang, Yinjiahe, Xiwuliying, and etc. with drilling cores in the vicinity of Beijing. About 12,000-10,000 years ago, deciduous broad-leaved trees were flourishing in Beijing. At that time, the climate was warm and rather wet. About 10,000-8,000 years ago, the herbaceous plants, such as artemisia, Compositae were flourishing in plain of Beijing and the mountainous region was dominant in subalpine conifer forest, consisting of Pinus, Picea, and Abies. According to the increase of needle-leaved forests at that time, we think that the climate was cooler and wetter about 9,000 B.P. In the past 8,000-6,000 years, needle-leaved and deciduous broad-leaved mixed forests, consisting of Pinus, Quercus, and Betula

[continuation of ZHIWU XUEBAO No 2, 1982 pp 172-181]

thrived under a warm and wet climate; the bogs were better developed in the plain. During 6,000-2,000 years, in a general review of the sporo-pollen assemblages of Beijing, we think that the climate was warm, especially about 5,000 years ago; the flora was mainly composed of deciduous broad-leaved trees, such as Ulmus, Quercus, Morus, and Betula. But, during 5,600 years ago or so, spruce-fir forests became predominant in the low land and the plain of Beijing again. At that time, the annual mean temperature was lower than that of the present. It corresponded to the new glacial period. The flora mainly was composed of Pinus, which had obviously been decreasing since 2,000 years. The glassland was increased in Beijing.

6248
CSO: 4011/223

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TITLE: "On the Effect of Different Levels of Vapor Tension on the Germination of Winter Wheat Under a Sub-optimal Temperature"

SOURCE: Shanghai ZHIWU SHENGLI XUEBAO [ACTA PHYTOPHYSIOLOGIA SINICA] in Chinese No 2, May 82 pp 115-125

TEXT OF ENGLISH ABSTRACT: The results of a study made on the effect of different levels of aqueous vapor tension as simulated solutions of mannitol in various concentrations on the germination of winter wheat under a sub-optimal temperature are as follows: (1) Moisture tensions under 15 atmospheres do not seem to have any effect on the total germination ratio. (2) When the moisture stress is increased within the range of 0-18 atmospheres there is a marked progressive decrease in the rate of water-intake, in the speed of germination, in the rate of root growth, and in the intensity of respiration, and the varietal differences become more and more remarkable. (3) The locally selected drought-resistant cultivars, as compared with those bred experimentally, have the advantages of higher respiration rate and higher germination energy and are able to maintain greater germination percentage and better root growth at a moisture stress as high as 18 atmospheres. It is suggested that in developing drought-resistant wheat varieties, such factors as moisture intake capability, germination rate and ratio, root growth and respiration intensity should be taken into consideration.

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China Report

AGRICULTURE

No. 230

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CHINA REPORT

AGRICULTURE

No. 230

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I. GENERAL INFORMATION

IMPETUS GIVEN COMMODITY GRAIN PRODUCTION

Editorial Comment

Beijing ZHONGGUO CAIMAO BAO in Chinese 29 Jul 82 p 1

[Text] Although the country's grain output has developed very greatly since founding of the People's Republic, growth in the average amount of grain per capita has not been large because of the overly fast increase in population. The conflict between supply and demand is a very prominent one. What can be done? On the basis of many years experience, genuine strengthening of the building of commodity grain production bases and efforts to raise grain production in commodity grain base counties constitutes a strategic measure for fundamental amelioration of the conflict between grain supply and demand, and it is also a major step in development of the country's agriculture toward socialization and specialization.

Division of the country's more than 2,300 county level administrative units (including some municipalities and districts subordinate to municipalities) in terms of their commodity grain production produces three broad types of regions as follows: One is the regions in which commodity grain production is fairly advanced; another is the regions in which commodity grain production is not advanced; and the third is regions totally lacking in commodity grain production. On the basis of statistics and analysis for the maximum grain output year of 1979, the basic situation of the aforestated three types of region is as follows: In the first type region are a total of 591 counties or 25 percent of the total number of county level administrative units in the country. Their grain yields average 694 jin per mu, and per capita output averages 1,077 jin. Each of these counties annually provides more than 100 million jin of state procurement or excess procurement grain, or an average of more than 200 jin per capita of state procurement or excess procurement grain for a 25.6 percent commodity rate. In the second type region are a total of 1,547 counties amounting to 65.4 percent of county level administrative units in the country. Their grain yields average 532 jin per mu; output averages 717 jin per capita; and the commodity rate is 14 percent. In the third type region are 226 counties or 9.6 percent of county level administrative units in the country. In these counties, grain yields per mu, average grain output per capita, and the commodity rate are all rather low.

The situation reported above shows that the 591 counties in the first type region are the major commodity grain production bases for the country. The commodity grain that they provide plays a decisive role in balancing grain supply and demand in the markets of the country. Generally speaking, grain production conditions in these commodity grain base counties are fairly good, and grain output, commodity rate, and the grain consumption level of the masses there are fairly high. However, if analysis is made of grain production in these counties, one can discern that the gap between one county and another is still fairly large. For example, Hanshan County in Anhui County averaged yields of 1,226 jin per mu in 1980, while in the same year in neighboring He, Wuwei, and Chao counties, which are commodity grain counties producing more than 100 million jin of state procurement and excess procurement grain for storage, yields averaged only between 750 and 760 jin per mu, a difference of more than 400 to 500 jin. In the commodity grain counties of Zhejiang Province that provided more than 100 million jin, yields averaged mostly more than 1,200 jin per mu, while in commodity grain base counties of Jiangxi Province that provided more than 100 million jin of grain, yields averaged only 700 to 800 jin per mu, a difference of between 400 and 500 jin per mu. In some commodity grain base counties in North China, in particular, grain yields per mu are very low, and the potential for increased yields is very great. On the Song Jiang and Nen Jiang plains, for example, where there are 42 counties, all but two rank as commodity grain producing basis. From a grain field area of almost 80 million mu, in 1980 yields averaged only 307 jin per mu. Were it possible to take action to increase Song Jiang and Neng Jiang plain grain yields per mu to 100 jin, within a year commodity grain output could be increased by 8 billion jin. From this may be seen that provided the grain field area of commodity grain base counties remains constant, prospects are extremely good for efforts to increase grain yields per mu, to increase total output, and to make a greater contribution to the country.

However, grain production in some commodity base counties is currently facing major problems principal of which are year by year reduction in the grain growing area and declines in yields per unit of area. This results in a drop in total grain output and corresponding reduction in state procurement and excess procurement grain sales to the state. Some commodity grain base counties have become ordinary grain production counties, and some have changed from next exporters to net importers of grain. Statistical data on 352 counties that were commodity grain counties for the 3 consecutive years 1978 to 1980 show that the area sown to grain in 1980 was 16.2 million mu less than in 1979, and further reduction occurred in 1981 as compared with 1980. In 21 counties in Hubei Province in which state procurement and excess procurement of grain for storage had been more than 100 million jin for 3 consecutive years beginning in 1978, in 1980 the grain growing area was 1.3 million mu less than in 1978. Figured on the basis of average yields per mu for these 21 counties in 1980, that amounted to a 1 billion jin decrease in grain production. In 13 counties of Jilin Province in which state procurement and excess procurement of grain for storage had been above 100 million jin for 3 consecutive years beginning in 1978, in 1980 the grain field acreage was 1.65 million mu less than in 1978. This amounted to a

600 million jin reduction in grain output. As a result of the steady decline in grain output, state and excess procurement grain quantities have correspondingly fallen.

China has a population of 1 billion, and getting enough food to eat is still a matter of major importance. As population continues to increase in future, and as people's living standards rise and production develops, the amount of grain required will increase year by year. This means that all jurisdictions will have to take grain production very very firmly in hand, and they will have to assure steady growth in grain output from commodity grain base count counties in order to expand the country's sources of grain.

Increase in grain output has many facets, and guaranteeing the necessary growing area is a fundamental condition for increased grain output. All commodity grain base counties must stabilize the existing grain growing area, and in places where conditions for the growing of grain permit, some wastelands should be developed for agriculture to expand the grain growing area, efforts made on this basis to increase yields per unit of area to assure steady growth in total grain output. In order to attain this objective, the growing area for economic crops such as cotton, oil-bearing crops, sugar crops, tobacco, jute, and ambari hemp must everywhere be layed out under the guidance of state plan with no usurpation of the grain growing area. Some commodity grain base counties in areas south of the Chang Jiang have used high yield grain fields for the growing of cotton, but yields per unit of area have not been high. They should proceed from the situation as a whole, weighing the advantages and disadvantages, the gains and the losses to make readjustments so as to take full advantage of these places for growing grain.

In some areas today, benefits from the growing of grain grows are less than from the growing of economic crops. In some high yield old commodity grain bases this problem is particularly prominent. It should be pointed out that conditions in these areas for development of grain production are far superior to those in other places. All that is required is policy guarantees of equitable economic earnings to grain growing peasants and it will be possible to advance local development of grain production. In this regard, it is necessary to readjust gradually the economic benefits derived from the growing of grain crops and economic crops, bringing them closer together to encourage peasants to strive to do a good job of grain production.

Experience has shown that in buttressing construction of commodity grain bases and developing commodity grain county grain production, it is necessary to proceed on the principle of acting within ones capabilities for a planned step by step advance. In view of the present state of the country's financial and material resources, in the short term, marching orders for the development of grain production in the 591 counties of the first type regions should be to keep high yield areas as they are, and to increase yields per unit of area in medium yield and low yield areas, with the emphasis being on medium yield areas. In the commodity grain production bases producing high yields such as the lake Tai Plain, the Chengdu Plain, the Pearl River Delta, and the Dongting Lake Plain, action should be taken to lower production costs and to increase economic benefits so that no decline will occur where yields per unit of area are already very high. In addition it is necessary to improve the low yield fields existing in these high yield areas, to increase yields per unit of area, and to assure steady growth in grain production. Medium yield commodity grain production bases such as the Boyang Lake Plain, the Jiang-Huai Plain, and the Jiang-Han Plain require vigorous efforts to raise yields per unit of area and to increase total output. In these areas, generally increased fertilization would increase grain yields, so the state should provide major support to them with funds and materials to effect fairly great development of grain production there. Suppose for a minute that for the country's 591 counties in which commodity grain production is fairly advanced that grain yields per mu could be raised from the 694 jin of 1979 to 800 jin, i.e. a 15 percent increase for a 44.8 billion jin increase in grain output. Since the grain ration level in these areas is fairly high, the commodity grain rate increase might be calculated at 60 percent, i.e. an increase of 26.9 billion jin of commodity grain. At such time, the 591 counties would be able to provide 100 billion jin of commodity grain. When newly emerging commodity grain producing areas were added to this, a rather tremendous growth would result in the quantity of the country's commodity grain production. Development of agriculture's largest and most important grain producing commodity economy would give extremely great impetus to all around development of the rural economy.

Figures for 1981

Beijing ZHONGGUO CAIMAO BAO in Chinese 29 Jul 82 p 1

[Text] Statistics from 495 commodity grain base counties show that in the 1981 grain year, state procured grain for storage amounted to about 57 percent of state procured grain for storage in the country as a whole, and played an important role in balancing national receipts and expenditures of grain for the year.

Six of the 495 aforementioned commodity grain base counties each provided more than 500 million jin of state procured grain for storage in 1981. Holding first place was Changtu County in Liaoning Province (from which 1,093,1400 jin was state procured for storage). Second was Lishu County in Jilin Province (877.33 million jin). Third was Huaide County in Jilin Province (812.82 million jin). State procurement for storage from Xinghua County in Jiangsu Province, Bayan County in Heilongjiang Province, and Yushu County in Jilin Province individually topped 500 million jin.

In terms of the agricultural population average for the province as a whole, five counties sold more than 1,000 jin per capita of state procurement and excess procurement grain in 1981. The county holding first place was Aihui County in Heilongjiang Province where grain sales to the state averaged 1,443 jin per capita.

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STRENGTHENING OF RURAL ECONOMY REPORTED

Beijing BEIJING RIBAO in Chinese 17 Jul 82 p 4

[Article: "Rural Economic Strength Promotes Development of Industrial Productions; Gross Output Value of Agriculture in Recent Years Has Averaged 5.6 Percent Annual Increase; For Most Agriculture-Associated Products, Both Buying and Selling Are Vigorous"]

[Text] A new situation has occurred in the country's industrial production this year. In most cases, agriculture-associated products have shown both brisk output and sales. Some industrial plant cadres have said that for anything related to the word "agriculture," production initiative has become greater than formerly.

As of the end of June, most industrial goods using agricultural or livestock products as raw materials have increased in varying degrees throughout the country. Output of yarn, for which cotton is the major raw material, has increase 9.2 percent over the same period last year, and the output of cotton cloth has increased by 8.8 percent. Silk textiles have increased by 16.5 percent, and woolen yarn has increased by 37.3 percent. Sugar output is up by 12.6 percent, and output of cigarettes and beer has risen by 15.2 and 20.7 percent respectively. At the same time a tremendous increase has also taken place in the amount of products sold mainly to rural villages such as chemical fertilizers and farm machinery and equipment. Sales of hand tractors have increased by 40.3 percent. Total value of products such as small tractors, small horsepower diesel engines, hand operated spraying devices, rubber-tired pushcarts, and agricultural water pumps amounted to 865 million yuan for the first 5 months of this year. This represented a 42 percent increase over the same period last year, and such an amount of increase in output is a rarity.

Since the Third Plenary Session of the 11th Party Central Committee, the CCP Central Committee and the State Council have brought order out of chaos, have readjusted the proportional relationship among agriculture, light industry, and heavy industry, have adopted a series of policy measures to support and develop the rural economy, and have instituted various forms of agricultural production systems of responsibility. National gross output value from agriculture has averaged annual incremental increases of 5.6 percent for a strengthening of agriculture, the foundation of the national economy. Today, not only does agriculture provide city and town residents with copious supplies

supplies of grain, oil, meat, eggs and such agricultural and sideline products for improvement in market supply, but it directly promotes development of industrial production by producing raw materials and offering a market for sales. Major raw materials that agriculture supplies for industrial production such as grain, cotton, oil-bearing crops, milk, leather, flue-cured tobacco, silkworm cocoons, jute, and ambari hemp have increased in varying degrees during recent years. In 1981 national output of cotton totaled somewhat more than 2.96 million tons, a slightly more than one-third increase from 1978. In addition, total output of oil-bearing crops also rose from 5,218,000 tons in 1978 to somewhat more than 10.2 million tons in 1981, or almost double. In rural villages everywhere during the last 3 years, outputs of sugarcane and sugarbeets have increased 51 percent so that the sugar refining industry, which has for long lacked sufficient raw materials, is now able to steadily develop at the high speed rate of 11.7 percent annually.

Accompanying the strengthening of the rural economy has been an almost two-thirds increase within 3 years of average net earnings for peasants throughout the country. This has opened a vast market for the development of industrial production.

A comparison of the past 5 months of this year with the same period last year shows a one-third increase in sales to rural villages of small tractors, and rubber tired pushcarts, and sales of water pumps have increased 49 percent. Currently supplies of sewing machines and bicycles are tending toward saturation in cities; however, thanks to the 70 percent and somewhat more than 50 percent respective increases in quantities sold in rural villages and towns during the past 5 months, output of these two products has continued to grow by 30 to 40 percent over the same period last year.

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THIRD QUARTER PEASANT FARMING NEEDS CITED

Beijing ZHONGGUO CAIMAO BAO in Chinese 27 Jul 82 p 1

[Article: "Peasants Strive to Farm Fields Scientifically and Give Attention to Sensible Use of Chemical Fertilizers and Pesticides. New Structural Changes in Supplies of Agricultural Means of Production Everywhere"]

[Text] Data provided by the Ministry of Commerce show retail sales figures for agricultural means of production of all kinds for the period January to June to have totaled 11.4 billion yuan, a 12.5 percent increase over the same period last year. This included chemical fertilizers, chemical pesticides, spraying apparatus, dusting apparatus, and plastic film for agricultural use, all of which increased over the same period last year. Despite a decline in business department sales of medium and small farm implements and draft animals from the same period last year, because of peasant purchases from country fair markets and other channels, total quantities purchased increased.

Representative sampling shows that for the first half of this year additional peasant purchases of medium and small farm implements from all channels increased by from 20 to 30 percent over the same period last year.

The peasants are striving to farm the fields scientifically, and are giving increased attention to sensible use of the means of agricultural production. During the first half of this year, everywhere new changes took place in the structure of the supply of agricultural means of production. For example, while sales of nitrogenous and phosphate fertilizer continued to rise, quantities of potash fertilizer supplied increased by 59.1 percent over the same period last year in a gradual trend toward equitability in the proportional supply of nitrogenous, phosphate, and potash fertilizers. Among pesticides, a decline also occurred in the supply of organic chlorine pesticides of high residual toxicity. Quantities supplied of various kinds of prepared pesticides containing benzene hexachloride fell by 13.8 percent from the same period last year, and supplies of prepared pesticides containing DDT fell by 14.2 percent. Meanwhile, supply of pesticides of high effectiveness and low toxicity showed remarkable increase. For example, supply of dimethoate increased 43.7 percent over the same period last year, and kitazin increased by 33.3 percent.

A person in charge at the Means of Agricultural Production Bureau of the Ministry of Commerce pointed out that the last half of the year continues to be a busy season for supply of the means of agricultural production. The amounts of commodities such as chemical fertilizers and agricultural pesticides needed for fall harvesting and winter planning will continue to increase, so supply tasks are still very heavy. Right now most sources of commodity supply are fairly ample, and needs can be satisfied under normal circumstances. However, for some varieties of fertilizer such as superior quality fertilizers, compound fertilizers, and for some pesticides such as new varieties of high effectiveness and low residual toxicity, as well as for some bamboo and wooden farm implements, and for oxen and donkeys, supplies continue to be rather tight. More planning has to be done for wood and bamboo, raw and processed materials that have been in short supply for a long time. Substitutes must also be found. Iron and plastics should be actively promoted to replace wood to bring about a new situation within a short period of time. The third quarter of the year is the season for all kinds of frequent natural disasters, so it is also necessary to give close attention to the disaster situation everywhere and to prepare materials needed to provide disaster relief.

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AVERAGE PER CAPITA NET INCOME FIGURES FOR 3 CONSECUTIVE YEARS GIVEN

Beijing NONGGUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, Aug 82 p 9

[Article: "Three Consecutive Years of Tremendous Increases in Peasant Earnings"]

[Text] Survey data from the State Statistical Bureau on the earnings of 18,529 commune member families in 28 provinces, municipalities, and autonomous regions (excluding Tibet) show that since the Third Plenary Session of the 11th Party Central Committee, tremendous increase has taken place in the earnings of these commune members for 3 consecutive years, that changes have occurred in the income structure, and that peasant purchases of the agricultural means of production have increased.

According to the State Statistical Bureau survey, calculation of average per capita net income for these more than 18,000 commune member households showed a 26.60 yuan increase in 1981 over 1980, bringing net per capita income in 1981 to 233.40 yuan. The 89.90 yuan increase in earnings over the 3 year period represents a tremendous continuing increase in earnings unprecedented since the founding of the People's Republic.

Peasant household sideline occupation net earnings increased more rapidly than earnings distributed by the collective. In 1981, average annual per capita earnings of these peasant households received from the collective amounted to 116.20 yuan, a 31.3 percent increase from 1978, while net from household sideline occupations amounted to 84.50 yuan, a 1.36 fold increase.

Cash income has increased rapidly, its ratio climbing remarkably. In 1981 average per capita cash income amounted to 153.20 yuan, up 1.4 fold from 1978.

The number of households with high incomes increased, and the number of households with low incomes decreased. The number of these more than 180,000 households having average per capita net incomes of more than 300 yuan rose from 2.4 percent in 1978 to 22.6 percent in 1981. The number of households having average per capita net incomes of less than 150 yuan fell from 65 percent in 1978 to 19.7 percent in 1981.

Increase in peasant earnings has provided funds for expansion of reproduction. Private purchases by these commune member households of fixed assets of a manufactured nature amounted to 2.8 percent of net income.

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REGULATIONS ISSUED ON APPROVAL PROCEDURES FOR NEW CROP VARIETIES

Beijing RENMIN RIBAO in Chinese 25 Jul 82 p 2

[Article: "Ministry of Agriculture, Animal Husbandry, and Fishery Promulgates 'National Trial Regulations for Examination and Approval of Agricultural Crop Varieties.' Accelerates Use of New Results in Breeding and Planned Promotion of Fine Varieties"]

[Text] The Ministry of Agriculture, Animal Husbandry, and Fishery has stipulated the promulgation and implementation in May this year of the "National Trial Regulations for Examination and Approval of Agricultural Crop Varieties" in order to strengthen management of agricultural crop varieties, speed up use of new results in breeding, promote fine varieties in a planned way, and advance development of agricultural production.

Excerpts of provisions contained in the trial regulations are as follows:

The country, provinces, municipalities, and autonomous regions are to establish individual crop variety examination and approval commissions. Prefectures and counties may establish crop variety examination and approval units as needed.

Farm crop variety examination and approval commissions are to be composed of representatives from agricultural administrative departments, seed promotion departments (seed stations and seed companies), agricultural research units, agricultural academies and schools, peasant breeding experts, and relevant grain, textile, and standards units.

The duties of farm crop variety examination and approval commissions will be: 1. Formulation of rules and regulations, systems, and methods pertaining to the work of farm crop variety examination and approval. 2. Examination and approval of new varieties including their economic effectiveness, area suitability, and corresponding farming techniques. 3. Leadership and organization of area experiments and production experiments for varieities. 4. To make suggestions pertaining to varieties already being promoted and about demonstration, breeding, and promotion of new varieties.

The national farm crop variety examination and approval commission is responsible for examination and approval of new varieties being given interprovince promotion. Provincial, municipal, and autonomous region examination and approval commissions are responsible for examining and approving new varieties bred by or introduced into the local province, municipality, or autonomous region.

Farm crop variety area experiments and production experiments are to be conducted on a natural area or site basis.

Varieties examined and approved by the national farm crop variety examination and approval commission are to be recommended by national area experimentation and production experimentation units responsible for them. Varieties examined and approved for promotion will be issued a variety examination and approval inspection certificate by the national farm crop variety examination and approval commission. This will be formally published by the Ministry of Agriculture, Animal Husbandry and Fishery. All new varieties examined and approved for promotion by provinces, municipalities, and autonomous regions are to be published by provincial, municipal, or autonomous region agriculture departments (or bureaus), and are to be reported as a matter of record to the national farm crop variety examination and approval commission.

When new varieties that have been examined and approved for promotion demonstrate outstanding results in increased yields in production, units or individuals that have made outstanding achievements in the breeding (or introduction of varieties), in area experiments and production experiments, and in breeding and promotion work should, on the recommendation of farm crop variety examination and approval committees to units concerned, be given bonuses.

Varieties that have not been examined and approved or whose examination and approval was turned down may not be promoted, may not be made the subject of requests for awards, and may not be publicized in periodicals or broadcasts. Those who take it upon themselves to promote varieties and cause losses in production, those who resort to deception in reporting data to higher authority, and those who steal results are to be punished according to circumstances.

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WIDE PROMOTION OF NEW COTTON VARIETY REPORTED

Beijing RENMIN RIBAO in Chinese 29 Jul 82 p 3

[Article: "Large Area Promotion of 'Zhongmiansuo No 1' Cotton Begun; Breeding of New Variety To Promote Double Bumper Harvests in Grain and Cotton"]

[Text] A new variety of cotton bred by the Cotton Institute of the Chinese Academy of Agricultural Sciences, "Zhongmiansuo No 10" is a rather good breakthrough type variety that China has developed in recent years. Following several years of regional experiments, beginning this year large area promotion of it will begin in the Huang-Huai-Hai areas on a more than 400,000 mu growing area. Other cotton-growing areas of the country will also test plant it in more than 200 counties.

The Huang-Huai-Hai Plain is China's major cotton producing area, but in this area the conflict between grain and cotton for growing space is fairly pronounced. Formerly, for lack of a suitable cotton variety, more than 90 percent of cottonfields were farmed for one crop a year. When cotton was harvested, grain could not be harvested. Beginning in 1975, the Chinese Academy of Agricultural Science's Cotton Institute researchers bred new cotton varieties to solve the contest for space between grain and cotton. In 1978 breeding of cotton variety "Zhongmiansuo No 10" was finalized, cotton-growing area experiments in the Huang He basin followed for 3 consecutive years thereafter. Experts believe this variety meets requirements for bringing about a change in the farming system in the Huang-Huai-Hai region to win bumper harvests of both grain and cotton, that fiber quality is outstanding, and that both early ripening characteristics and bumper output qualities are fairly good.

"Zhongmiansuo No 10" is sown late, sprouts easily, ripens early, and has a short growing season of 113 days in its entirety, which is about 30 days shorter than for most early ripening varieties. For this reason, it can be farmed continuously with wheat or rapeseed for two crops every year. In test planting demonstrations at 22 sites in 12 counties in the 6 provinces of He'nan, Hebei, Shandong, Shanxi, Shaanxi, and Jiangsu, "Zhongmiansuo No 10" and a suitably early maturing wheat variety were paired, the cottin being sown after the wheat was harvested. Yields of ginned cotton averaged 114 jin per mu, and the previous wheat crop averaged yields of 530 jin per mu. When

"Zhongmiansuo No 10" was cropped in succession with rapeseed, yields of ginned cotton averaged 143 jin per mu, and the previous crop of rapeseed averaged yields of 208 jin per mu. In 1981, results were very good from the test planting of an area of almost 10,000 mu of "Zhongmiansuo No 10" with wheat and rapeseed as the previous crop. Following large area promotion, many communes and brigades having requisite water and fertilizer conditions can change from the growing of a single crop of cotton each year to the growing of wheat and cotton or edible-oil crops and cotton.

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WILD OIL-BEARING PLANTS OF ECONOMIC IMPORTANCE IDENTIFIED

Beijing ZHONGGUO CAIMAO BAO in Chinese 31 Jul 82 p 2

[Article: "Full Use of China's Wild Oil-Bearing Crop Resources"]

[Text] China has a vast population and limited cultivated land, so despite great development of oil-bearing crop production, the average per capita supply of edible vegetable oil remains very low. The gap is very great as compared with the 30 and 40, or 40 and 50 jin in some countries. There is a fairly great shortage of the various dry vegetable oils needed in industry. How to make full use of abundant wild oil-bearing plant resources (including the as yet unused xylophytic oils) is a major topic currently requiring study.

Pertinent records show about 600 or more varieties of wild oil-bearing plants in China more than 13 million dan of which could be harvested for use to provide more than 260 million jin of fats and oil. This amounts to 80 percent of the country's industrial use of oil. A very great potential remains to be tapped. These wild oil-bearing plants contain many outstanding properties as follows:

First is high rate of oil content and great economic benefits. The seeds of the ferreous mesua [Mesua ferrea] in Yunnan and Guangxi provinces, for example, have an oil content as high as 78.99 percent, which is 9.09 percent higher than the highest oil content of English walnuts, and which is more than 20 percent higher than the world renowned oil king, the oil palm. Another example is the large-fruited hodgsonia [Hodgsonia macrocarpa] found in Yunnan and other places, whose oil content is greater than that of watermelon seeds. A single large-fruited hodgsonia tree produces between 70 and 80 jin of oil a year, more than enough for a family of several. Statistics show that wild oil-bearing plants in China with an oil content of 50 to 60 percent or more number 60 different varieties; those with an oil content of 20 percent or more number more than 300 varieties.

Second is an especially large fat and oil content and a wide range of uses such as domesticated oil-bearing crops cannot match. More than 20 species of wild oil-bearing plants such as the climbing fig, and the Chinese mosla [Mosla chinensis] contain a 50 to 60 percent linolenic acid content, which can be used in the production of paint and soap. It may also be used to replace imports of linseed oil for use in automobile industry casting technology. Some is able to prevent thrombosis, and plays a special role in the metabolism of fat in the human body. Sixteen varieties of wild oil plants including Actinodaphne acutivena and Hyoscyamus niger, which have an oleic acid content and a linolenic content of 60 to 80 percent may be widely used in the plastics industry as well as in the production of engineering plastic nylon-9 and of emulsifiers and dryers. They also are farily high in nutrients and are beneficial in medical treatment. Eighty percent of medicines used for the treatment of high blood pressure contain linolenic acid. More than 10 species of oil-bearing plants such as juansinan [4831 4828 2809] and the fruit of the cubeb litsea tree [Litsea cubeba] have a more than 60 percent lauric acid content, which is a major raw material in various chemical industries. It is also an additive for lubricants, a stabilizer in the plastics industry, and a raw material for insecticides. Wild oil-bearing plants such as guanghuaju [0342 5478 8603] and Litsaca cupeba have a capric acid content of from 50 to 70 percent and are used to make lubricants. This is a lubricant that is indispensable in space navigation launchers, and it is also a raw material for the manufacture of nylon-610 and nylon-9 fibers. Long neglected wild carrots contain petroselinic acid, which is used to increase strength and elastic in the production of stretch knitgoods.

Third is a Wide Range of Uses and Great Value for Multiple Uses. Heikenan [7810 3011 2809] and kernels of houzhang [3729 2874], for example contain large quantities of fats and oils such as lauric acid and capric acid. The fruit skins contain large amounts of stearic acid and palmitic acid, and the roots, stems, and leaves contain aromatic oils. Another example is oil from the seeds of Fumaotiebangzhui [5415 3029 6993 2761 6923], which contains many useful ingredients, and the root tubers of which may be used in medicine. It is also possible to extract tannin, white wax, starches, protein, and vitamins from the stalks and leaves of quite a few wild oil-bearing plants, deriving great economic benefit thereby.

Back in the late 1950's, Premier Zhou was extremely attentive to the development and use of wild plant resources. The "State Council Instruction on the Collection and Use of China's Wild Plant Resources," which he personally signed, noted that "full use must be made of these resources as a major supplement to light industry raw materials." Given the encouragement of this instruction, all jurisdictions and all departments did a great deal of work. The Ministry of Commerce and the Academy of Sciences organized departments concerned to carry out the country's first survey of plant resources, which discovered more than 400 different species of wild oil-bearing plants. For various reasons, particularly the damage caused by 10 years of turmoil, no specialized study was continued to thoroughly clarify the distribution, amounts, composition, properties or markets for the country's wild oil-bearing plants, to say nothing of their full use. Now it is necessary to give attention to work in the several following realms:

First, summarization of experiences and doing a good job of scientific research. Acting on relevant recommendations, in 1978 the State Scientific and Technological Commission and the Chinese Academy of Sciences made development and use of the country's wild oil-bearing plants a part of the national 1978-1985 science plan. However, for lack of specific measures and coordination with those concerned, this plan has yet to be fully implemented. It has to be made a part of the national plan, and units concerned have to be organized to do a specialized and comprehensive survey of varieties, distribution, and reserves of wild oil-bearing plants to provide a scientific basis for production and use. Right now special emphasis should go to watching the promotion to use of the results of research on major projects in major producing areas, and to solving a series of problems in production, use, introduction, and farming.

Second is reform of management methods with institution of specialized administration. There are many varieties of wild oil-bearing plants, the fatty acid content and properties of which differ. The slightest bit of mingling can impair quality benefits. Therefore, a centralized management method has to be instituted for the supply, production, and marketing of wild oil-bearing plants. In major production areas, in particular, it is necessary to begin the training of specialized personnel in a combination of management and scientific research, and to set up management organizations of different sizes to take firm hold of specimens, products, quality, prices, and markets.

Third is readjustment of commodity categories and the opening of production and marketing channels. With the development of science and technology, benefits from certain wild oil-bearing crops are greater than those of domesticated oil-bearing crops. Nevertheless, management categories continue to be for third category commodities. Sources of supply are extremely inconsistent, and production and marketing channels are not open. Industries do not dare use raw materials whose sources of supply are inconsistent, and businesses do not want to accept commodities for which no normal marketing channels exist. This seriously impairs the development and use of wild oil-bearing crops. Therefore, wild oil-bearing crops with important uses should be designated plan commodities with centralized procurement and centralized marketing or assigned quotas or fixed procurement quotas instituted to stabilize sources of supply and flow channels to create conditions for development and use.

Fourth, application of laws of value with implementation of support policies. Inasmuch as wild oil-bearing crops are widely scattered and are not easy to gather, it is necessary, first of all, to resolve the conflict between low purchase prices and the high value of daily labor so as to arouse the enthusiasm of the masses to collect them and offer them for sale. In addition to strenghtening management and administration, and the use of scientific techniques to improve utilization value, within a certain period of time support price supports should be given in the same way they are given for the support of domesticated grains and oils. For varieties of special use, a fairly high subsidy standard should be applied. Those that are able to take the place of imported oils or tung oil should be purchased at a price that is the same as the imported price or the tung oil price. For varieties for which marketing is difficult within a certain period of time but for which there are developmental prospects, taxes should be reduced or exempted in order to expand procurement and sales and to stabilize transactions.

Fifth is combining the afforestation of the motherland with a change from wild growth to domesticated growth. The State Council directive on the collection and use of China's wild plant resources pointed out that "In wilderness areas in which wild plants grow well, their economic value being greater than what would be derived from clearing of the land to grow grain, artificial culturing of wild plants should be done to make these places into major bases for the growing of wild plants." Acting under guidance of this directive, some regions in South China have introduced the planting of large amounts of cubeb litsea trees and lemongrass as well as other economic plants, which have yielded very good economic benefits. In future they will adapt general methods to local situations for the introduction of wild oil-bearing plants as a major part of economic diversification. This is being done simultaneous with afforestation and the growing of grass to make the motherland green. Many of the countries xylophytic and herbaceous oil-bearing plants are drought resistant and tolerant of windblown sand. They make fine varieties for afforestation and the growing of grass. All that is needed is planned organization and benefits can be gathered in making the motherland green, in conserving water and soil, and increasing oil-bearing plants.

We believe that only by taking a firm grip on these tasks can the country's advantages in wild oil-bearing plants be brought fully into play, and perform an active role in advancing the building of the four modernizations.

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MEASURES TO ENSURE DOUBLE CROP LATE RICE HARVEST STRESSED

Brijing ZHONGGUO NOMGMIN BAO in Chinese 5 Aug 82 p 1

[Article by Commentator: "Early and Painstaking Care to Win a Bumper Double Crop Late Rice Harvest"]

[Text] South China has now entered the hectic stage of the "double rush" [rush to harvest and rush to replant]. In order to win a bumper harvest for the year as a whole, while assuring bumper output and bumper earnings from the early rice crop, and while fulfilling transplanting plans for the double season late rice, all jurisdictions should not miss the opportunity to do a good job of field care to win new breakthroughs in output of double crop late rice.

Double crop late rice is grown on one-third of the country's rice growing area and occupies an important position in total grain production. However, for many years outputs have been low and inconsistent, and during the last 2 years, as a result of damage done by the cold dew wind, yields have continued to fall greatly to the very great detriment of increases in grain production. This year a bumper early rice harvest was reaped, and in most places, the grain to be harvested in the fall is growing nicely The double crop late rice will play a decisive role in whether a bumper grain harvest for the year as a whole can be achieved and this year's increased production quotas fulfilled. This requires that all jurisdictions summarize the lessons of experience, using them as a basis for focusing on the weak links in late rice crop production and taking virorous action to tap potential for increased yields.

Following a period of effort with the implementation of planting plans for this year's double crop late rice, the growing of sturdy seedlings, the reading of materials, and the transplanting of seedlings, it seems that the situation is good overall, and that a definite basis exists for harvesting a bumper crop. However, it has to be realized that as a result of a shortage of seedlings in some places for the replanting of a large area, and as a result of delays in harvesting the early rice crop occasioned by overcast and rainy weather, flooding, and waterlogging, transplanting of the late rice crop was somewhat delayed. This has not only increased difficulties in transplanting the late rice crop, but places even higher requirements on field care from now on. Leaders at all levels should make complete appraisals and conscientiously analyze the current transplanting situation, adopt measures to hasten it, and rush "seedlings before autumn begins" [around 7 August] so that transplanting will be substantially completed by that time, and so that the number of seedlings transplanted after that time will be reduced to the minimum, thereby reducing the number of "foot dragging fields" for a balanced increase in yields.

Planting is the foundation and care is the key. For double crop late rice it is only slightly more than 3 months from transplanting to harvesting. The growing season is short; room for maneuver is slight; and natural disasters are numerous. One slip in care and the entire crop may suffer. This positively cannot be taken lightly. Conceptually and organizationally there must be adherence to unflagging efforts, guarding against and overcoming an apathetic attitude of "once transplanting has been finished, washing the feet and staying out of the fields," leading the masses in carrying forward a spirit of protracted war, promptly turning to field care, achieving care even while transplanting is being done, taking care after transplanting is finished, closing every link, giving continuous care, promoting early development and steady growth, avoiding the "cold dew wind," and achieving full heading in safety to create good conditions for consistently high yields.

Over the years a set of fairly complete scientific methods have been figured out and quite a few experiences accumulated everywhere for field care in double crop late rice production. The job now is to adapt general methods to local situations for widespread promotion of these methods and experiences in light of the characteristics of this year's double crop late rice production so that the broad masses of peasants will apply them and master them. Emphasis must be placed on doing things in their proper season and combating disasters in accordance with growth characteristics and weather conditions at different times for double crop late rice, devoting strenuous efforts to the major links of sensible follow-up fertilization, scientific use of water, prompt weeding, and prevention of diseases and insect pests.

After the hectic "double rush" season is over, the key to whether it is possible to maintain unflagging field care of double crop late rice lies in genuine strengthening of leadership. Only when leadership does not slacken efforts will the masses not take it easy. Leaders and cadres involved in the "double rush," should keep sufficient energy to continue to organize field care work, to coordinate and solve new problems in responsibility systems, to properly deploy workforces, and to assure that nothing is overlooked in farm work. Agricultural departments should do a good job of providing technical guidance for field care and in providing other services, and make full use of the role of specialized plant protection units and plant protection companies. In short, every aspect has to be fully orchestrated and matters taken firmly in hand during the 3 months of July, August, and September to win a bumper harvest from the double crop late rice.

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UPDATING OF HYBRID RICE PRODUCTION FIGURES PROVIDED

Beijing ZHONGGUO NONGMIN BAO in Chinese 8 Aug 82 p 1

[Article: "China Promotes Wide Area Growing of Hybrid Rice. Spread Over 330 Million Mu In 5 Years For Yield Increases of 100 Jin Per Mu"]

[Text] The correspondent obtained the following from the national conference on exchanges of experiences on hybrid rice breeding and seed production recently held in Beijing. Since the spread over wide areas of hybrid rice in China, development has been very fast, benefits from increased yields have been high, and great achievements have been made. Between 1976 and 1981, hybrid rice spread over an accumulated 330 million mu area for overall increases in yields of about 100 jin per mu. As a result of the popularization of hybrid rice, within a single year many places changed their low yield situation. When hybrid rice has been used for late rice crop planting, in particular, results in increased yields have been most remarkable. In 1978 Zhejiang Province promoted hybrid rice for the late rice crop, and for that year late rice crop yields for the province as a whole amounted to 575 jin per mu. After Sichuan Province vigorously promoted hybrid rice, the province sustained increased rice yields for 5 years. Hybrid rice has also gradually developed and output has steadily climbed in Hunan, Jiangxi, Jiangsu, and Guangdong provinces. The situation everywhere shows that promotion of hybrid rice is a major measure for advancing the country's grain production.

This conference summarized experiences and made suggestions on problems in purification and rejuvenation of the three lines of parent pairs used in hybrid rice, and in the mongrelization and regression of seeds in seed propagation and seed production work.

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EFFORTS TO SORT OUT MOUNTAINLAND RIGHTS, RESPONSIBILITIES REPORTED

Fuzhou FUJIAN RIBAO in Chinese 9 Jul 82 p 1

[Article: "Fujian Province Actively Carries out 'Three Fixeds' Work in Forestry. Fixing of Mountain Forest Rights Puts People's Minds at Ease So They Have Confidence in Developing Forestry; More Than 4,900 Units Inspected and Accepted, and 6.74 Million Mu of Privately Retained Mountains Demarcated For 860,000 Peasant Households."

[Text] Fujian Province has fixed mountain rights and forest rights, fixed the demarcation of privately retained mountains, and fixed forestry production responsibility system in the active launching of "three fixeds" work for forestry. Statistics as of the end of May 1982 show that 10,800 production brigades, state-owned forest farms and lumbering farms in the province have begun "three fixeds" work in forestry, and 9,040 units (83.4 percent of units that have begun this work) have completed field work in fixing rights for mountains and forests. More than 5,700 production brigades have fixed the demarcation of 6.73 million mu of privately retained mountains for more than 860,000 peasant households, each household getting an average 7.8 mu. More than 6,800 production brigades have preliminarily established forestry production responsibility systems for more than 51 million mu of mountain forests. "Three fixeds" work has been substantially completed, and more than 4,900 units have been inspected and accepted. This amounts to 45.5 percent of units who started it.

"Fixing of mountain forest rights puts people's minds at ease and gives them confidence about development of forestry." The "three fixeds" in forestry has further stirred mass enthusiasm for afforestation. Last winter and this spring, in addition to the afforestation done by communes and brigades collectively, various forms of afforestation such as afforestation by commune members working in partnership, individual contracting of afforestation, and afforestation of privately held mountains has taken place. Quite a large number of "standout" households who have been afforested 100 mu with 10,000 trees have appeared. This year 2.64 million mu have been afforested in the province including commune member afforestration of 460,000 mu of privately retained mountains. Qiancen Production Brigade in Huaan Country demarcated more than 1,600 mu of privately retained mountains for commune members, and this year more than 90 percent of them planted trees. This spring the production brigade planted a total of more than 210,000 China firs, each household planting an average of 839 trees. This year Guyang Production Brigade in Jinsha Commune, Minqing County afforested 940 mu including 790 mu of commune member privately retained mountains. Eleven commune member households planted 10,000 trees.

Communes and brigades that had initially established forestry production responsibility systems universally strengthened work in protecting existing mountain forests. They effectively halted reckless felling and denudation. According to statistics from Jianyang, Sanming, Jinjiang, and Putian prefectures, as a result of the checking up done on reckless felling and denudation, an additional more than 35,000 cubic meters of timber was found, and supplemental taxes and fines amounted to more than 750,000 yuan.

In the course of the "three fixeds" work in forestry, large numbers of arguments about forest rights were mediated and handled to promote stability and unity. In Shunchang County, 16 state-owned forest farms and lumbering farms have quarreled for years with communes about resources, about lumbering zones, and about mountainlands. They had many conflicts. As a result of the "three fixeds" in forestry, which fixed operating areas for state enterprises and collectives, the forestry area now administered by state-owned units has increased by 60,000 mu over what it had been. In accordance with policy regulations, when state-owned forestry units operate commune and brigade mountainlands, they must pay communes and brigades from 10 to 30 percent in forest fees. This has both consolidated state-owned units and strengthened farm and commune unity, and has promoted development of forestry production. In the course of the "three fixeds" in forestry in the province, more than 8,300 disputes about mountain forests were mediated or handled. This was 60 percent of the total number of arguments. In Jianyang Prefecture, as a result of efforts at verifying and readjusting mountains belonging to one production unit but enclosed within the boundaries of another, 80 percent of mountain forests belonging to one production unit but enclosed within the boundaries of another were readjusted. This both helped administration and management of the mountain forests, and can reduce and avoid future quarrels.

However, the "three fixeds" work in forestry developed unequally in different parts of the province. In a small number of counties and municipalities, leaders lacked understanding. They operated pilot projects without any follow up. Some simply issued a call, but did not specifically organize leadership. Work progressed slowly and many problems existed. Some did nothing but fix rights; they did not fix the demarcation of privately retained mountains or set up forestry production responsibility systems. In view of these problems, all jurisdictions are now in process of taking action, determined to work ceaselessly and unremittingly, to do well from start to finish, and to both complete and do a good job of the work of the "three fixeds" throughout the province.

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HARVEST SEASON FIRE PREVENTION WORK EMPHASIZED

Lanzhou GANSU RIBAO in Chinese 10 Jul 82 p 1

[Article: "Good Job of Fire Prevention During Wheat Harvest Season. Provincial Public Security Department Issues Notice"]

[Text] The Provincial Public Security Department recently issued a notice calling upon all jurisdictions to adopt measures for doing a good job in fire prevention during the wheat harvest season.

The notice noted that during the wheat harvest season in the province last year all jurisdictions did a great amount of work, yet fire disasters continued very severe. During the wheat harvest season, 113 fire disasters occurred. Economic losses ran to 200,000 yuan, and more than 280,000 jin of grain was destroyed.

The notice said that the various forms that had come into being in various jurisdictions last year whereby "brigades fought fires in brigade threshing grounds," "households (or units) fought fires in brigade threshing grounds," or "households fought fires in household threshing grounds" had caused numerous new problems and new situations for fire prevention and management work. All jurisdictions should formulate or revise wheat threshing ground fire prevention measures in light of actual conditions this year at threshing grounds following investigation and study. They should also launch widespread and deepgoing propaganda and education in fire fighting, stir the masses to establish fire prevention rules and regulations, and institute fire prevention responsibility systems that assign responsibility to individuals. Night patrols to protect threshing grounds should be organized, a good job done of preparations to put out fires, equipment to put out fires made ready, and full use made of the role of order preservation associations and volunteer fire fighting units. Attention should be given to models and to trends. When fire disasters occur, investigation of cause should be done at once, with perpetrators being severely dealt with. Arsonists are to be resolutely attacked.

Emphasis on Prevention

Throughout the province the summer grain crop is ripening in one place after another, being harvested, and brought to the threshing grounds. A conscientious job of fire prevention safety so that the grain already in hand will escape damage and every grain of it go into storage relates directly to the personal welfare of the state, the collective and the masses of commune members. It is a matter of importance during the summer harvest season. All jurisdictions are to devote a high degree of serious attention to it, genuinely take firm hold of it and handle it well.

Summer harvest season fire prevention should emphasize prevention. A common saying goes: Prepare a house for a rainy day; preparation averts peril. A solid job of preparations for the prevention of fire has to be done in the realms of mental understanding, organizational measures, and material preparations. There have to be regular inspections and the plugging of gaps to snuff out accidents before they happen. If good prevention work is done, disastrous fires will not easily occur, and should they occur by chance, it will be possible to extinguish them at once before they lead to great losses.

When it comes to fire prevention work, most damaging of all is a supercilious and completely unconcerned paralyzed mentality, and a psychology of trusting to luck. The outbreak of disastrous fires that cause great damage may be attributed to this. Therefore, all jurisdictions should indoctrinate cadres and masses in full understanding of the danger of fire disasters and the importance of fire prevention so that every home and household is aware and women and children know to maintain a high degree of vigilance against fire disasters. In addition, it is necessary to have a strict system of rules and regulations that everyone is to obey without exception.

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BRIEFS

SUMMER GRAIN PROSPECTS--Gansu Province's summer harvest is at full tide. The situation as reported from all areas shows that except for Dingxi Prefecture in Central Gansu and for the suburbs of Lanzhou, which have had reduced yields as a result of disasters, the other 10 prefectures, zhous, and municipalities will have higher outputs than last year, and in some counties summer grain production will reach an all-time high. On the basis of surveys, the Provincial Statistical Bureau has calculated a possible summer grain output totaling 5.8 billion jin, predicting an almost 10 percent increase over last year. [Text] [Beijing RENMIN RIBAO in Chinese 26 Jul 82 p 1] 9432

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EXHORTATION ISSUED FOR CONTINUED CARE OF THRIVING CROPS

Shijiazhuang HEBEI RIBAO in Chinese 25 Jul 82 p 1

[Article: "Go All Out to Conquer Disasters and Win a Bumper Fall Harvest"]

[Text] The arrival of summer marks the time of vigorous growth of the crops to be harvested in the fall. Full arousal of the masses for intensification of care in good time to triumph over any natural disasters that might occur in order to win a bumper autumn harvest is a task of primary urgency in rural villages for the next 3 months.

Accompanying the institution of various policies in rural villages this year, and particularly with the stabilization and improvement of various forms of responsibility systems that have brought into full play enthusiasm for collective centralized management and self-determination for the workers, the enthusiasm for socialism of the broad masses of cadres and people in Hebei Province has had an unprecedented upsurge. In addition, with the arrival of summer the rains came fairly early and the amount of rainfall was greater than for the same period last year, so the fall crops were planted on time and planted to the full, and now everything is growing rather well. The broad masses of cadres and people throughout the province should rouse their spirits, rally themselves, and work ceaselessly and unremittingly for new breakthroughs in autumn production this year to win all around bumper harvests from grain, cotton, and oil-bearing crops.

Autumn is the main season for agriculture in Hebei Province. Autumn grain output accounts for more than 70 percent of output for the year as a whole, and virtually all economic crops are harvested in autumn. Only by doing a good job of autumn production can agricultural production plans for the year as a whole be realized, only then can provisions for the livelihoods of urban and rural people be guaranteed, and only then can a greater contribution be made to the country for further development of a fine situation of unity and stability. Party and government leaders at all levels, as well as the broad masses of cadres and people, must fully realize the important economic significance and political significance of winning a bumper autumn harvest. In winning a bumper autumn harvest, one problem that merits serious attention right now is guarding against and overcoming feelings of blind optimism. The broad masses of cadres and people have to be made to realize clearheadedly that the present good growth of autumn crops is only a food foundation for harvesting a bumper crop and that 2 or 3 months remain until harvest time. If field care is not maintained, a good situation may turn into a bad one. This is also the season for numerous disasters; flooding, waterlogging and drought, as well as insect pests, hailstorms, and early frost may all occur. Anything that is not attended to may result in damage to output. So one cannot be the slightest bit smug or let down one's guard. It is necessary to do a good job of mental preparation, and material and technical preparations to meet various kinds of disasters. Reports from various places tell of great shortages of chemical fertilizer and pesticide equipment in some places. Unless ways can be found to solve these problems quickly, opportunities will be lost and reinforcements that the crops require will not be there. It is necessary to realize, as well, that though the province as a whole had a fairly good summer harvest, as a result of serious disasters original plans for increased output were not realized, and this compounds the task of increasing output from the autumn harvest. That is to say not only is it necessary to fulfill original plans for an increased autumn harvest, but many places must strive for even greater increases in autumn production, the autumn harvest making up for the summer harvest shortfalls. All this demonstrates fully that the task of reaping a bumper autumn harvest is an extremely arduous one that requires attention to guarding against and overcoming fears of difficulties. Places in which output fell substantially as a result of serious hailstorms should particularly appreciate the advantageous conditions that exist in the face of adversities, rally their spirits, build up their confidenee, and use every available means to recoup the losses occasioned by the disasters.

Reaping a bumper autumn harvest entails firm attention to the implementation of various measures to increase yields. In terms of the province as a whole, this means, first of all, firm establishment of a mentality of combat against disasters to win a bumper harvest, to triumph over the floods and waterlogging, the choking drought, the hailstorms, and the insect pests that have occurred or may occur. Herein lies the key to whether a bumper harvest may be won. Second is intensification of crop care, particularly additional fertilization given at the right times in the right amounts and using scientific methods. Insect pests have to be eliminated promptly and hoeing done to get rid of weeds. For cotton and corn, the all important autumn crops, care must be emphasized. Third is the need to take a firm grip on both grain and cotton, and to give attention as well to oil-bearing crops and other economic diversification, attention being given to timely planting of sufficient amounts of autumn vegetables in an effort to realize an all-around increase in output and earnings. Fourth is emphasis on medium yield areas where the potential for increased yields is great.

Rural leaders at all levels should place their main energies on the winning of a bumper autumn harvest and genuinely strengthen leadership. They should promptly study and solve problems in autumn production, particularly in the improvement of responsibility systems and the restructuring of grassroots level teams. They should persevere in attention to and full arousal of positive factors in all regards to do a good job of autumn production. They should take the lead in organizing large groups of cadres to go into the frontlines to assume work responsibility for specific tracts in the institution of a personal responsibility system. Scientific and technical cadres at all levels should go to the grassroots to help improve work and gain experience that can be used to improve work. They should institute responsibility systems that link output to techniques, train grassroots technical personnel, and readjust crop patterns at places so that full use is made of the role of demonstrations and scientific techniques for autumn field care to reach each and every one of the myriad households, and so that the desires of the masses to learn science and use science are satisfied.

Support from all trades and industries plays an extremely important role in winning a bumper autumn harvest. Many of the difficulties and needs currently being heard from the masses require solution by agricultural, industrial, commercial, supply and marketing, banking, and material departments. For example, the chemical fertilizers, pesticides, and small devices for the eradication of insect pests so urgently needed for autumn field care, the machines, electric power, fuels and other materials needed to combat floods and eliminate waterlogging, problems of some hardship communes, brigades, and commune members of a shortage of funds, all require the support of various trades and industries through attention to production, allocation, or supply. Consequently, all trades and industries are to give serious attention to support in winning a bumper autumn harvest as a matter of primary importance. In view of the new situation following responsibility systems, they should give prompt attention to technical guidance, make efforts to do a good job of the supply of materials such as chemical fertilizers, pesticides, pesticide machines, farm implements, electric power, and fuels, do a good job of maintenance and repair of farm equipment, and bend every effort to accomodate the masses, to insure that requirements for autumn field care and combat against disaster are met, and make a greater contribution to the building of the four modernizations.

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EFFORTS FOCUSED ON KEY CROPS, GUARDING AGAINST DISASTERS

Shijiazhuang HEBEI RIBAO in Chinese 21 Jul 82 p 1

[Article: "Give Attention to Key Crop and Give Attention to Prevention of Drought and Waterlogging. Leaders at All Levels in Langfang Prefecture Go Into the Frontline of Agriculture"]

[Text] Leaders at all levels in Langfang Prefecture have gone down to the grassroots to investigate and study, to do a solid job of solving problems encountered in winning a bumper autumn harvest, to lead mass unification for struggle, to do hard work for the three months of July, August, and September, and to use every available means to win a bumper autumn harvest, resolved to recoup summer losses and realize increased production plans for the year as a whole.

As a result of a severe drought this spring such has rarely ever been encountered, Langfang's summer grain output was almost 20 percent less than last year. Immediately following the summer harvest, the Langfang Prefecture CCP Committee and government administrative offices analyzed both the favorable and unfavorable factors in winning a bumper autumn harvest. They realized the need for genuine strengthening of leadership and great exertions to bring plans for increased output to fruition. Thirteen members of standing committees and deputy assistant directors of the Prefecture CCP Committee and government administrative offices, more than 130 leadership cadres promptly went to the grassroots to investigate and study, and to discuss with the masses in common overall plans for winning a bumper fall harvest. Prefecture CCP Committee First Secretary Liu Yuansheng [0491 0955 3932] discovered in Guan County that such sandy wasteland in the county could be used. He thereupon discussed with county cadres and masses the dividing up of the sandy wasteland among commune members for farming, the commune asking little or nothing as compensation. The county then transferred more than 30,000 mu of sandy wasteland. At the meeting of County CCP Committee secretaries conference convened in June, the Prefecture CCP Committee further proposed the launching throughout the prefecture of a campaign for "full farming of fields." By dividing among commune members for farming the more than 300,000 mu of sandy wasteland, idle land, and abandoned land in the prefecture, grain output could be increased by 60 million jin. In the course of an investigation at Beiwang Commune in Langfang City, Comrade Peng Qingbin [1756 1987 1755], Prefecture CCP Committee deputy secretary, discovered that the commune centrally purchased chemical fertilizer for commune members, centrally prepared pesticides, and helped commune members sink wells thereby solving difficulties for commune members that were in urgent need of solution. He summarized this experience and recommended that not only should production brigade grassroots governments exercise two functional roles, but departments at the commune, county, and prefecture levels should fully exercise their required functional roles as well to help commune members overcome difficult ties. In the course of looking into the chemical fertilizer, phosphate fertilizer, and pesticides situations, comrades in charge at the Prefecture CCP Committee learned that during recent years some enterprises had emphasized attention to economic benefits, but their support to agricultural ideas had been weak. In view of this situation, the Prefecture CCP Committee emphasized that each enterprise was to do a good job of supporting agricultural work even while increasing economic benefits, and that they should readjust their methods of purchasing and marketing chemical fertilizer changing from marketing by enterprises themselves to business having "monopoly selling rights", the state temporarily shouldering losses with benefits going to the peasants. After this idea was made clear, a new situation came about in the production of chemical fertilizer, phosphate fertilizer, and the supply supply of other means of agricultural production.

In order to guarantee a bumper autumn harvest, this prefecture made a special point of taking a firm grip on two key measures. One was attention to key crops. Corn is a staple crop of the prefecture accounting for more than two-thirds of autumn output. All jurisdictions took firm grip on corn production so that 2.5 million mu of spring corn and more than 1.4 million mu of intermediate crop corn would grow better than in previous years. Second was strict attention to prevention of drought and waterlogging. The Prefecture CCP Committee and government administrative leaders parcelled out responsibility for sections of the river, and the County CCP Committee and county government leaders divided up responsibility for dikes. The dikes along the Yongding He, the Daqing He, and the Ziya He have already been inspected, and work is currently urgently underway on 175 drainage projects throughout the prefecture. Work will be finished before the arrival of the flood season. While working to prevent waterlogging, some communes and brigades that had had inadequate rainfall promptly carried out rush watering to replenish soil moisture.

As a result of leaders at all levels having gone down to the grass roots and having taken vigorous action, Langfang Prefecture's summer production has progressed rapidly and quality is good. As of 7 July, the 2.24 million mu that had been sown in spring had been hoed twice. This is 780,000 mu more than during the same period last year. Final thinning of late sown crops has been done on 1.1 million mu, 900,000 mu more than during the same period last year, and more than 2 million cubic meters of manure has been accumulated, 140,000 cubic meters more than last year.

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FURTHER EXTENSION OF RESPONSIBILITY SYSTEMS REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 28 Jul 82 p 2

[Article by Shijiazhuang Prefecture CCP Committee Office and Investigation Team, Department of Agriculture and Industry" "Responsibility System Linking Remuneration to Wheat Output Possesses Powerful Vitality"]

> [Excerpts] Editor's Note: The tremendous superiority and powerful vitality that various different forms of agriculture production responsibility systems demonstrate toward the development of agricultural production is already an incontrovertible fact. However, what is the need to practice responsibility systems linking remunerations to wheat output in high wheat producing areas? It seems people still have different perceptions of this. This survey written by the Shijiazhuang Prefecture CCP Committee Office and the Department of Agriculture and Industry provides a clear answer to this question that merits reading by everybody.
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> At the present time, the wheat producing regions of Hebei Province are beginning work preparatory to planting wheat. It is hoped that leaders at all levels will make the summarization, promotion, and perfection of responsibility systems linking wheat output to remuneration a major part of these preparations, that they will intensify ideological indoctrination of grassroots cadres, and that they will continue to emancipate thinking so that Hebei Province's system of responsibility linking remuneration to wheat output will be steadily perfected and improved to lay a foundation for winning a bumper wheat harvest next year.

This year Shijiazhuang Prefecture has promoted a production responsibility system linking remuneration to wheat output over a wide area. Production teams practicing the linking of remuneration to production account for more than 70 percent of the total number in the prefecture. The 4.4 million mu area on which remuneration is linked to production accounts for 74 percent of the wheat growing area. What role do production responsibility systems linking wheat output to remuneration play in wheat production? Last year when crop prospects were good, when they were instituted in small areas throughout the prefecture, output increased. This year, with numerous disasters, when practiced over a large area, will they be able to increase output? Recently we conducted a survey, and practice has provided an affirmative answer.

This year wheat production in Shijiazhuang Prefecture has been beset with many calamities and numerous difficulties. First was low temperatures in early winter; second was protracted drought; third was high winds; fourth was the sudden outbreak of large numbers of wheat aphids; fifth was early arrival of hot dry winds with many occurrences; and sixth was hailstones. In short, the number and frequency of disasters were such as have not been seen in many years. However, as a result of the indomitable struggle of the people throughout the prefecture, a total of more than 2.2 billion jin of wheat was still harvested, a good harvest that was only 0.70 percent less than last year.

In this situation of numerous disasters and reduced yields, places practicing responsibility systems linking remuneration to wheat output demonstrated the outstanding superiority of the system no matter whether the size of their workforces was great or small. From the 10,243 production brigades that practiced the linking of output to remuneration before planting the wheat, results were outstanding; from the 4,600 production teams that had practiced the linking of output to remuneration for 2 years, results were even more outstanding. For those faces with the same disasters, under the same conditions those linking output to remuneration sustained a smaller decrease in output that those not practicing the linking of output to remuneration. Those who practiced the linkage early and well had increased yields, some of them tremendously increased yields. In the Dasonglou Production Brigade in Lianxing Commune, Huolu County, for example, were soil and water conservancy conditions are rather good, the continued practice this year of the contracting of jobs to be done in a certain period of time brought wheat yields of 500 jin per mu, 127 jin less than last year for a 20 percent drop. Meanwhile in the neighboring village, Xiaosonglou Production Brigade, which is a hilly region where conditions are not as good but where output quotas have been assigned to individual able-bodied laborers for 2 consecutive years, wheat yields amounted to 494 jin per mu, the same as last year. Balizhuang Production Brigade in Shulu County instituted well in advance of wheat planting the assignment of fixed output quotas to individual able-bodied laborers during the second year in which this system was used. Its wheat yields were 635 jin per mu, 183 jin more than last year and 135 jin higher than the all-time high year of 1979, at Songcao Communein Yuanshi County, seven production brigades practiced the system of large scale assignment of responsibilities, and as a result of good handling of the relationship between centralization and contracting, every brigade had increased yields. Total output for the commune as a whole was 1.05 million jin higher than last year. In Shenze County, brigades practicing the linking of remuneration to output numbered 96.7 percent the total number of brigades in the county, and total output for the county as a whole increased by more than 10 percent.

Seven out of 10 communes had increased output. Eighty-four of 123 production brigades had increased output. Of the 630 production brigades in Yuanshi County that had increased outputs, 625 practiced the linking of remuneration to output. Only five of the 58 production brigades not practicing the linking of remuneration to output had increased output. Last year wheat yields at Xianzhuang Commune in Luancheng County were 595 jin per mu. This year, when 49 of the 51 production brigades practiced the linking of remuneration to output, yields increased to 616 jin per mu, high yields becoming even higher. Throughout the prefecture many field plots had wheat yields of 1,000 jin per mu, and many households produced 10,000 jin of wheat. Survey has shown that in a year of great disasters, the linking of remuneration to wheat output stood the test and played a great role.

As a result of the survey, we learned three things as follows:

1. The linking of remuneration to wheat output holds great prospects. For many brigades, particularly high wheat yield brigades, the linking of remuneration to wheat output was done at the behest of higher authority; methods were crude; and results were unremarkable. As a result, people felt that when the "basis for high yields was good and potential small, linking of remuneration to output did not pay." In some case, remuneration was linked to output only after the wheat had been planted. There was little individual management of work procedures and results were not striking. People felt even more that "fall grain comes from good care but for wheat it is the planting that counts," and "seventy percent of the wheat harvest has to do with sprouting; there is no need for linking remuneration to expected output." Practice has shown that the linking of remuneration to wheat output is a strongly adaptable system. Low yield brigades can get high yields, and high yield brigades can get higher yields. So long as the link is formed early and well, the potential for increased yields can be tapped and retapped, and it pays very well. Furthermore, whenever collectives centralize only plowing, planting, watering, supply of chemical fertilizer and pesticides, and such work procedures, leaving to individual households the management of everything else, results are good (Naturally some work procedures require brigade assistance, as, for example harvesting and hauling of the crop, and threshing it). In some brigades in which there was little individual management of work procedures that had poor results, the main problems lay in having linked remuneration to output late and in improper handling of the relationship between centralization and contracting. Individuals did not work hard, which was not the fault of the responsibility system linking remuneration to output per se.

2. It is not difficult for individual households to farm wheat by themselves and this method helps all around performance of the "three summer jobs" [planting, harvesting, and field care]. "The linking of remuneration to wheat output is all very well and good, but there is no way to do the threshing." This year's experience further demolished this idea. So long as organizational leadership is strengthened, not only can individual household threshing be done, but three can be "one fast and two ahead of schedules," namely: fast threshing, and summer planting and summer care ahead of schedule. Because of the poor organization in some brigades threshing by

individual households takes a whole day or a half day, but when the grain is apportioned as soon as it has been threshed, the time required to clear the threshing ground is shortened and it becomes available for use in summer planting and summer care, so when all is said and done all of the "three summer jobs" are hastened along.

3. The linking of remuneration to wheat output has set the stage for the linking of remuneration to output of autumn crops. Summer has given impetus to fall for a bumper harvest for the year as a whole. The linking of remuneration to wheat output, individual farming, and the honoring of commitments has put people's minds at ease and has given them confidence to practice the linking of remuneration to output for fall crops. It has also changed the former situation of "linkage in fall but no linkage in summer." People realized that wheat and corn are akin. When dibbling corn into wheat fields they have to guard against trampling the wheat, and when they harvested the wheat, they have to guard against trampling the corn. During fall harvest there should be no delay in clearing fields to plant wheat. Thus, what worked in summer also worked in fall. What worked this year will also work next year. This is a key measure for all around sustained development of agricultural production.

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RURAL ECONOMIC DIVERSIFICATION SPURRED

Shijiazhuang HEBEI RIBAO in Chinese 22 Jul 82 p 1

[Article: "Tangshan Prefecture Rural Diversification Flourishes, Leadership Organizations at All Levels Perfected; All Trades and Industries Coordinate Support"]

[Text] During this year a new situation of flourishing development has taken place in rural economic diversification in Tangshan Prefecture. As of the end of May, prefecture gross earnings from economic diversification reached 277.13 million yuan, and profits reached 176.78 million yuan, a more than 10 percent increase over the same period last year. Substantial development occured in the farming, breeding, and processing industries.

Development of rural economic diversification in Tangshan Prefecture this year was characterized in four ways as follows: One was perfection of leadership organizations, a clearcut guiding mentality, and practicality in the way work was managed. The prefecture, municipalities, and counties established economic diversification leadership teams and offices, which formed a battle front designated responsible for economic diversification. All levels formulated development plans, and the prefecture designated 10 key areas including the planting of trees for afforestation, dry and fresh fruits, silkworm cocoons, hog raising, chicken raising, rabbit raising, marten raising, lumber, light industrial foodstuffs, and freshwater breeding. Fourteen farming and breeding bases were under direct control of the prefecture. Thirty-six key communes for farming and breeding were directly controlled by municipalities and counties. Second, pertinent party policies were rather well implemented. Now 61 percent of all production brigades in the prefecture engaged in forest and fruit production practice responsibility systems. Commune and brigade enterprises practicing responsibility systems number 87 percent. Fishing industry brigades practicing responsibility systems, and particularly as a result of specialized contracting, commune and brigade enterprises have very quickly turned around a temporary decline in output. At the same time, they have vigorously supported commune member household sideline occupations. Third was the widespread application to the development of production of scientific techniques, economic effectiveness greatly increasing as a result. According to incomplete statistics, cadres and commune members who have received training in various aspects of economic diversification this year number more than 16,300, and they have played a major role in economically diversified production. Four, individual departments have supported each other in economic diversification. During the year, the Prefecture Finance Bureau allocated 1.6 million yuan of local public funds as circulating capital for support of economic diversification. The Bank of Agriculture issued economic diversification loans amounting to 43.78 million yuan, a 20.94 million yuan increase over the same period last year. Foreign trade departments have disbursed $500,000 in foreign exchange to import 1,000 tons of fish meal to support development of the marten raising and chicken raising industries. The supply and marketing system has sent 69 technical personnel to give special attention to fruit production in 131 production brigades, investing 200,000 yuan of support funds in this task.

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NEW EMPHASIS GIVEN USE OF MIXED LIVESTOCK FEEDS

Accelerated Development

Harbin HEILONGJIANG RIBAO in Chinese 4 Jul 82 p 1

[Text] According to most recent statistics, the 36,000 tons of livestock feed produced during the first 5 months of this year by the province's 15 medium and small blended and mixed livestock feed processing plants have been sent in a steady stream to livestock and poultry raising farms and to households specialized in the raising of livestock everywhere in the province to provide livestock and poultry with "food" containing diverse nutrients.

During the past several years livestock feed departments in some places have begun with improvements in livestock feed processing equipment and active promotion of the use of combined livestock feeds in vigorous development of the livestock feed industry to play an active role in advancing development of the province's livestock industry. Now the cities and counties of Harbin, Qiqihaer, Mudanjiang, Jiamusi, Hegang, Shuangyashan, Yichun, Qitaihe, Shuangcheng, and Tailai have established 15 mixed and combined livestock feed processing plants of various kinds with an annual output capacity totaling 80,000 tons of livestock feed, which is 16 percent of the total amount of livestock supplied to livestock and poultry throughout the province.

Fulaerji livestock feed station in Qiqihaer renovated and improved its original livestock feed processing equipment, and in October 1981 built a mechanized production plant with a daily combined feed output of 32 tons. They went to livestock farms and to individual households specializing in the raising of livestock and poultry to investigate and understand needs. They developed Laying Hen No 4 blended feed and mixed hog feed prescriptions suited to the needs of poultry and hogs, which they actively produced and supplied to customer households causing the egg production rate to rise by 5 to 10 percent. The chickens' consumption of 8 jin per month of a single feed was cut to only 7.5 jin of blended feed for a 1/2 jin saving in the amount of feed formerly used to the delight of customer households who have increasingly turned to the buying of combined feed. The more than 1,400 tons of combined livestock feed that this plant produced between January and April this year has been completely sold.

The Shuangcheng County Livestock Feed Company has actively promoted use of combined feeds among the farflung customer households. Now more than 5,000 milk cows throughout the county are fed nothing but combined feed, and the milk production rate has increased 10 percent.

Advantages of Blended Feeds

Harbin HEILONGJIANG RIBAO in Chinese 4 Jul 82 p 1

[Text] Blended feeds are highly nutritious feeds blended from various raw materials to meet the nutritional needs of different livestock and poultry during different stages of their growth. They are selected energy feeds (corn, gaoliang, and millet), protein feeds (bean cake, fish meal, and miscellaneous crop residues), coarse green feeds (bran, and pulverized leaves, and grass), and suitable amounts of minerals (calcium, phosphorous, potash), vitamins (A,D,E, B_2, and B_{12}, niacin, and choline), amino acids (lysine, and methionine), plus antibiotics (penicillin and terramycin) as additives which are blended in machine processing into livestock and poultry feeds. Blended feeds are characterized as being finely pulverized, accurately blended, mixed evenly, and nutritionally complete.

It was formerly the practice in feeding livestock and poultry in the province to use a single variety feed. Though large amounts of grain and bean cake were used to feed livestock, the mineral, vitamin, and amino acid nutrients that poultry and livestock required were not adequately supplied. As a result the feeding cycle was long, the quantity of commodities small, grain consumption great, and the return from feed low. Under identical feeding conditions, because they meet livestock and poultry nutritional needs and have the proper amount of additives put in them, blended livestock feeds can hasten weight gain in livestock and poultry, producing more meat, eggs, and milk. They make possible a short production cycle for livestock and poultry, many commodities, small grain consumption and high return on feed. Were livestock and poultry raised everywhere in the province to be fed combined feeds, livestock and poultry output could be increased by more than 20 percent. Both livestock raising units and individuals could increase earnings, and the country could save 20 percent of its grain. This holds major significance for a change in livestock feed composition, for improving benefits from feeds, for promoting development of the livestock industry, and for increasing output while conserving grain.

'RIBAO' Commentary

Harbin HEILONGJIANG RIBAO in Chinese 4 Jul 82 p 1

[Text] The further development of the province's livestock industry has presented comrades engaged in the livestock feed industry a new problem, namely the need for vigorous development of the livestock feed industry and the use of scientific feeding methods to take the place of the former traditional and backward livestock and poultry feeding methods, the use of blended feeds to replace single feeds, shortening of the feeding cycle, lowering grain consumption, and improving economic effectiveness.

During the past several years the province's livestock feed industry has seen preliminary development; however, development has been a long way from being commensurate with present development of the livestock industry. The province's present capacity to produce blended livestock feeds accounts for only 12 percent of total livestock feed supply for the province as a whole. The province is one with rather bountiful resources, which annually has a large surplus of bran, miscellaneous crop residues, sugarbeet fibril tree leaves, grass, grit, and waste meat, blood, bones, hair, scrap fish, dregs from the manufacture of medical concoctions and such industrial and commercial leavings. These all make fine raw materials for the production of blended livestock feeds. However, formerly this large quantity of resources could not be used to the full, and some was simply wasted. Statistics show that during last year alone more than 700,000 tons of sugarbeet fibril were left in the province that were not used to make blended feeds. As a result, resources were both wasted and increase in economic effectiveness was impaired.

A major reason why the province's livestock and feed industry has developed slowly is that some comrades feel that "Heilongjiang has a lot of grain, so all that is needed is to rely on grain departments to allocate grain to develop the livestock industry." Some grain department comrades also believe that livestock feed work is not indispensable; all that is needed is a good job of grain procurement, storage, processing, transportation, and supply." Because of the existence of the various foregoing erroneous ideas, livestock feed work in many places is limited solely to how to strengthen management of livestock feed to supply a single kind of livestock feed. These comrades are unable to realize that only using the single kinds of livestock feed of the past to feed livestock and chickens is not appropriate for present day development of the livestock industry. If giving impetus to development of the province's livestock and poultry enterprises is intended, all levels of leadership units, particularly comrades engaged in grain work, will have to thoroughly do away with the old cant about livestock feed production and supply, and make full use of the province's advantages in resources. If the province's numerous bountiful resources can be fully used for development of the livestock feed industry for vigorous development of blended feeds composed of many kinds of nutrients, and scientific methods used to feed livestock and poultry, development of the livestock industry throughout the province, will inevitably be hastened, using a relatively small expenditure of livestock feed to provide the people's livelihood with more and better sources of commodities such as meat, eggs, and milk.

9432
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MULTIPLE SUCCESSES REPORTED FROM FARM MECHANIZATION PILOT PROJECTS

Nanjing XINHUA RIBAO in Chinese 3 Aug 82 p 2

[Article: "Province Achieves Success in Farm Mechanization Pilot Project Work. Future Need to Adhere to Principles of Producing What is Urgently Needed, and Impliments That Have Been Fully Tested, That Provide Marked Benefits and That the Masses Both Want and Are Able to Afford"]

[Text] Following more than 3 years of effort, Jiangsu Province's farm mechanization pilot projects have won outstanding results, providing both economic and technical benefits, and they have piled up experiences for development of the province's agricultural production and for exploration of roads to mechanization.

The province's pilot project work on farm mechanization began in 1979. As a result of efforts on the part of all concerned, the level of mechanization of individual pilot project units has been considerably improved. Today the total power used in agriculture at the province's nine pilot project units has increased by 60 percent over 1978. The amount of cultivated land per horsepower has dropped by 33.1 percent since 1978. The rate of overall farm mechanization has generally increased by from 15 to 20 percent as compared with 1978. Farm mechanization test pilot work has achieved marked success. One way has been an increase in the agricultural labor productivity rate. For the province as a whole, pilot project unit grain output per unit of labor increased by an average 30 percent in 1981 as compared with 1978. Secondly, it has promoted all around development of farming, sideline occupations, and industry. In 1981 total output value from farming, sideline occupations and industry had increased by 62 percent over 1979. Third, commune member living standards have remarkably improved. As a result of the development of farming, sideline occupations and industry in the wake of the pilot projects, commune member earnings distributions for pilot project communes and brigades in the province in 1981 were 55 percent higher than in 1978. Fourth, the contribution to the country has increased. In 1981 pilot project units sold a total of somewhat more than 440 million jin of commodity grain to the state, 16 percent more than in 1978.

During the past 3 years the province's pilot project units have introduced more than20 kinds of farm implements from inside and outside China and from inside and outside the province. Using pilot project demonstrations, they selectively promoted a sowing machine that furrows the soil and covers the seeds used in planting wheat, barley, and naked barley, a planter, a threshing machine, a ditch digging machine as several of more than 10 kinds of urgently needed machines produced. Economic benefits have been remarkable, and they have been rahter well received by the masses. More than 50,000 of the soil furrowing and seed covering machines for wheat, barley, and naked barley have now been spread throughout the province. Under the impetus provided by the pilot projects, the machine sowing of wheat, barley, and naked barley in Xuzhou Prefecture increased from 2.7 percent in 1978 to more than 60 percent.

During the past 3 years the province's farm mechanization pilot project work has had achievements and experiences; it has also learned from problems. Examples include blind pursuit of speed and norms, going in for grandiose projects, indiscriminately seeking all around mechanization, plus lack of investigation and study in work, and insufficient tailored guidance, which has lead to some farm implements not being widely promoted in the province while some implements urgently needed by the masses have not received prompt and priority testing, demonstration and promotion. A situation of not very high technical or economic benefits has arisen. At the recently convened provincewide conference on agricultural mechanization pilot project work, comrades attending diligently summarized the lessons of experiences in these regards, and, in future work, they will strive to overcome them. Only through adherence to step by step and selective development of suitable farm implements, and only through adherence to the principle of producing what is urgently needed, and producing implements that have been fully tested, that provide marked benefits, and that the masses accept and are able to afford can good rsults for small investment be achieved. At the same time, full benefits must be derived from existing farm implements and a good job of mechanized service work done so that farm mechanization will meet the new situation following promotion of agricultural production systems of responsibility. Pilor project commune and brigade farm machinery station and team farm machine service work must gradually move in the direction of specialized division of labor in service, socialization of those provided service, diversification of the items to be serviced, and businesslike administration and management.

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NEED FOR INCREASED RAISING OF LEAN PORK HOGS STRESSED

Nanjing XINHUA RIBAO in Chinese 3 Aug 82 p 2

[Article: "Report on the Breeding of Lean Meat Hog Species"]

[Text] On 15 July measurements were made at the consolidated meat plant on 16 head of lean pork hogs bred by the Yangzhou Municipal Food Company Superior Variety Farm that had been slaughtered. On-site supervision and observation was done by veterinarians, technicians from all over engaged in the breeding of lean pork hog species, and cadres from the provincial food company system. What they saw was master workers practiced in hacking, chopping, slicing, and cutting use cleavers to remove the skin, and pointed knives to debone. In the twinkling of an eye, the fat and the skin was placed on one side, and the shoulders, forelegs, back and rear legs containing lean meat were layed out in an orderly fashion on the other. Then the director of the Jaingsu Academy's Dissection Teaching and Research Unit, Lu Tong [7120 2717], zestfully described for everyone the component muscles in each part.

Difficulty Marketing Hog Fat, Lard, and Pigskin

The Yangzhou Municipal Food Company deputy manager, Zhu Chun [4281 5028] had some other thoughts on his mind. He said, "Nowadays customers come to food markets carrying baskets and walking here and there. When they see very fatty pork, they just gape at it. The business people look at the fat they cannot sell and feel blue. After they have been supplied with cuts of pork, the price for lean pork goes up yet there is never enough to sell. The price for fat and lard tumbles, yet they cannot be sold. Consumers want lean pork, and we businessmen also demand hogs with more lean pork! Recently the Cuiyuanqiao food market in Yangzhou has had five head of hogs delivered daily, and everyday about 200 jin of fat cannot be sold. Because more and more poeple do not eat fat pork, between January and May last year the Yangzhou markets had no choice but to render 79 tons of fat into lard, and during the same period this year, this amount climbed to 1,081 tons. During the slightly more than a month since June, another 500 tons has been rendered into lard. The food company's lard bulges from warehouses and there are even 220,000 jin of leaf lard on hand. Pastry producers and eating houses have taken all the lard they can use. Nowadays pure vegetable oil pastries are all the rage, and year after year bumper crops of rapeseeds are harvested. Sales of rapeseed oil to one food plant by the grain department amounted to 90,000 jin at parity price, and this crippled the market for lard. Still another change that has taken place is the difficulty in selling pigskin. Formerly some tanneries sent people to meat products plants to help remove the skin. Now, some remove the skin carefully and send it to tanneries, but they do not want it.

Increasing the Lean Pork Rate Can Be Done

The breeding of lean pork hog species is not only an urgent task, but a way already exists to do it. The Yangzhou Municipal Food Company's Superior Breeds Farm has done some experimental breeding, and has made measurements of four slaughterings. This was the fifth one, and the lean pork rate was a general 50 percent of so, more than 10 percent higher than the lean pork rate for most live hogs. Yang Qing'an [2799 3237 1344], doctor of veterinary medicine from the Provincial Food Company who personally participated in the breeding experiments, said that beginning since the end of 1978 the province has carried out experiments in the breeding of lean pork hog species at 10 sites including Shazhou, Nanjing, Yangzhou, Dongtai, Haimen, and Taixian, and that the lean pork rate has been stabilized at around 50 percent. Methods and means of achieving this have been worked out.

Provincial Science Commission agronomist, Comrade Zhang Chongying [1728 1504 5391] and others gave a brief and to the point explanation of the various techniques used in the province for the breeding of lean meat hog species. First has been the importation of lean prok boars for use as studs including Landraces (from Denmark), Yorkshires (from the United Kingdom), and Durocs (from the United States) for mating with local superior breed sows from Jiangsu Province, carrying out binary or ternary crossing. In order to make the most of the role of stud boars, the artificial insemination methods used by many superior variety farms may be used, the semen being delivered to where it is needed to hasten the spread of lean pork hog varieties. Second has been an increase in protein feed, particularly of animal protein such as fish meal and powdered blood, the coarse protein content being thereby increased to more than 15 percent. Third has been a mobilization of the masses to improve their feeding methods, reversing the customary method of feeding hogs poorly during the early stage of growth to build up their framework and feeding them well in the late stage of growth to build up their framework and feeding them well in the late stage to fatten them. Feedings of hogs until they reach a weight of 100 to 120 jin should be good, but hogs should not be allowed to eat better and better. All that is necessary is to assure that their nutritional requirements are met, while controlling growth at the proportion of 1 jin of flesh for each 3 jin or so of feed given each day, and a gradual cutback in feeding during the middle and late stages, nutritional levels being gradually reduced from the 70 percent level of the early period to 15 or 13 percent. Fourth is a change in butchering weight. After feeding for about 150 days, when the hogs have reached a weight of between 160 and 180 jin, they should be slaughtered.

Earliest Change Into the Work Promotion Stage

Zhang Zhao [1728 3564], Provincial Animal Husbandry Veterinary Medicine Society deputy director and professor at the Jiangsu Academy of Agricultural Sciences, gave lectures and showed slides in a combination of theory and practice to report on the history and present state of breeding and feeding lean pork hog species in the United States, Denmark, Canada, and Japan, and to report on successful experiments in the breeding of lean pork hog species done in Heilongjiang and Zhejiang provinces. Professor Zhang is 70 years old this year. In 1934 he raised and studied American Curoc hogs. At that time, this type hog was also a fatty one in the United States, but after 45 years the United States bred it into a lean pork type hog with a very high lean pork rate. So experiences exist abroad that can be borrowed, and inside China and within the province too there have been experiments. We can speed up our efforts a little, and now we should rapidly transfer to the promotion stage. The four techniques reported above for the breeding of lean pork hog species may not be gradually spread through the adaptation of general methods to specific local situations. The running of superior variety hog farms, the promotion of binary and ternery hybridization, the artificial insemmination, the raising of pigs from the south in the north, and the supplying of different cuts of pork with increased differences in price for the fat and the lean, etc are real steaps that have already been taken along this path.

Seriour attention on the part of leaders to change the policies that encourage the raising of overly fat hogs and to encourage the raising of hogs with a high lean pork rate will be a useful measure. Jiangsu Province annually uses between 6 and 7 billion jin of grain to raise hogs, but the pork it gets in return is largely fat that the society does not welcome. Should not promotion of the raising of lean prok hog species be placed on daily agendas with all possible speed?

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JILIN

TWO PREFECTURES BECOME MAJOR COMMODITY GRAIN BASES

Beijing RENMIN RIBAO in Chinese 3 Aug 82 p 1

[Article: "Large Consecutive Year Grain Increases in Siping and Tieling Prefectures. Learning From One Another to Make Up Each Other's Deficiencies and Hasten the Building of Commodity Grain Bases; All-around Development of Forestry, Animal Husbandry, Sideline Occupations, Fisheries, and Industry, Collectives and Commune Members Gradually Becoming Prosperous"]

[Text] Siping Prefecture in Jilin Province and Tieling Prefecture in Liaoning Prefecture, located in the middle and upper reaches of the Liao He, have learned from each other, helped each other, and made up each other's deficiencies for tremendous increases in grain production year after year and the all-around development of forestry, animal husbandry, sideline occupations, fisheries, and industry, making an increasingly great contribution to the country. These two prefectures have become major commodity grain bases in the two provinces.

The story of how Siping and Tieling prefectures learned from each other to increase production and earnings has been told far and wide on both banks of the Liao He. It has been learned from authorities in both prefectures that last year Siping Prefecture's grain output totaled 5.38 billion jin, up 20 percent from the year before, and commodity grain turned over to the state totaled 2.66 billion jin, up 40 percent from 1980. Last year Tieling Prefecture's grain output totaled 4.82 billion jin, up 9 percent from 1980, and commodity grain turned over to the state amounted to 2.31 billion jin, up 20 percent from 1980. Development of production has occasioned a flourishing of the economy, and both the collective and commune members have gradually become prosperous.

Siping and Tieling are neighboring prefectures. Following the Third Plenary Session of the 11th Party Central Committee, both Siping and Tieling prefectures were designated commodity grain bases. They very rapidly increased grain production while at the same time actively developing economic diversification, realizing the common hopes of cadres and masses in both prefectures. At that time Tieling Prefecutre's agricultural production was more highly developed than Siping's. Siping Prefecture CCP Committee First Secretary Huo Mingguang [7202 2494 0342] went down into communes and brigades to investigate and study, and the production experience of labor model Chen

Dianshuang [7115 3013 7175] of Shahe Second Brigade in Zhenxing Commune in Tieling Prefecture aroused his very great interest. He invited Chen Dianshuang to Siping to give lectures and teach his experiences. Chen Dianshuang's experiences in the use of phosphate fertilizer blossomed in Siping.

The attitude in Tieling Prefecture used to be: Agricultural production is intensive in the south and extensive in the north, and grain yields are high in the south and low in the north; one should learn from the south and not from the north. Last year Siping Prefecture promoted the production experiences of Chen Dianshuang and of Changtu County in Tieling Prefecture and, with the aid of the weather, total grain output climbed to 5.38 billion jin, 500 million jin higher than for Tieling Prefecture.

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PROVINCIAL CONFERENCE HELD ON ECONOMIC DEVELOPMENT OF MOUNTAIN REGIONS

Jinan DAZHONG RIBAO in Chinese 10 Jul 82 p 1

[Article: "All-around Launching of the Building of Mountain Regions to Hasten Development of the Rural Economy. Provincewide Mountain Region Work Conference Calls Upon All the Party and All the People to Mobilize. Conference Discussed Programs, Policies, Plans, Measures, and Leadership Problems in Mountain Region Constuction. Comrades in Charge from Provincial CCP Committee, Provincial Government and From all Prefectures, Municipalities, and Counties Join in Tree Planting Activities in Wulian County"]

[Text] A provincewide mountain region work conference lasting for 6 days concluded on 8 July in Wulian County. The conference called upon CCP Committees and governments at all levels in mountain regions to take in hand as an urgent strategic task the rapid construction of mountain regions, to go into action, to adapt general methods to local situations to do good planning, and to lead the broad masses of cadres and people to do a good job of mountain region construction in order to change the face of mountain regions with all possible speed, and make a new contribution in the all-around balanced development of the province's agricultural economy. Before the conference began, comrades in charge from the Provincial CCP Committee and provincial government went to more than 10 mountain counties including Wulian, Yingxian, and Liwu to investigate and study. Comrades in charge from municipalities and counties everywhere went to Wulian and Yingxian counties to inspect and study, and they made rather well thought out preparations. During the conference, the Wulian County CCP Committee, the Yingxian County CCP Committee, and the Jietou Commune CCP Committee from Wulian County gave briefings on experiences. The CCP committees from Laiwu, Rizhao, Xixiz, Zhucheng, Kuanxian, and Mengyin counties, the CCP committees from Haiqing Commune in Jiaonan, from Mada Commune in Taian City, the Beizhuang Commune in Zaozhuang City, the Ezhuang Commune from Zibo City, and Sizhang Commune from Sishui, and the General Party Branch and Party branches of the Xiadingjia Production Brigade in Huangxian, from Nan yan Production Brigade in Yidu, and from Liujia Production Brigade in Licheng made illustrative remarks.

Comrade Bai Rubing [4101 1172 3056], Provincial CCP Committee first secretary, made a major speech at the conference on the subject of "Mobilization of All the Party and All the People to Hasten the Pace of Mountain Region Construction."

The conference acknowledged that in order to hasten the building of mountain regions, the entire province from top to bottom will have to have a renewed understanding of the mountain region. For a long time many comrades have lived in the mountains without understanding the mountains. They have linked "mountains" and "poverty" together, and have carried around a notion of "barren mountains and unruly rivers." Very clearly such ideas are wrong. Granted that in mountain areas slopes are steep and ravines numerous, the soil infertile and water lacking, and communications difficult, these are their weaknesses. But in mountain regions the land area is vast, resources are abundant, the production potential is great, and ways to earn income are numerous. These are their tremendous strengths. These are strengths that plains areas cannot match. In the province's mountain and hilly regions, average amounts of cultivated land per capita is 1.4 mu and the average amount of mountain land along streams is 2.3 mu. Were these mountain areas along streams to be planted to grain, the yields from 3 mu would be equal the yields from 1 mu on the plains. Were fruit trees planted on them or were they used for timber forests, earnings from a single mu would equal those from several mu of grain. It should also be realized that if farming, livestock raising, mining, and processing industries were carried out in the mountain regions, economic effectiveness would be even greater. In some mountain regions production has not been well handled and the standard of living of the masses of people is fairly low. This is not the result of resources not being abundant there but rather because leaders do not have a correct appreciation of mountain regions. In beginning construction of mountain regions, their understanding has come late and their actions are slow. "If there is a mountain, it holds a treasure, but it is not easy to find." Only if one genuinely realizes the wealth that the mountain regions contain and is adept at adapting general methods to local situations to fight his own battle from a position of dominance, the mountainlands along streams will then become "money trees" and "cornucopias."

As to what construction program to pursue in mountain regions that would be of crucial importance to mountain region economic development, the conference summarized the lessons of historical experience and recognized the need to take a firm grip on the major mountain region contradictions, to define the main direction of attack, and to persevere overall in carrying out the Central Committee's program for "positively no relaxation in grain production while actively developing economic diversification," persevering in taking forestry as the key link in a combination of farming, forestry, and animal husbandry for economic diversification and all around development to take the path of "relying on the mountain for food to eat and nurturing the mountain that feeds one." Facts have shown that in development of mountain region agriculture and the entire mountain region economy, the decisive element is forests. Forest trees are the main switch and the hub of the natural world. They not only provide lumber, firewood, fruits, and such direct economic benefits, but they hold water resources, preserve water and soil, break the winds and stabilize sands, regulate climate, purify the air and provide such indirect benefits. As the masses say, "To grow many trees in the mountains is the equal of building a reservoir. When it rains, they can swallow it; when it does not rain, they can spit it up." "A few trees with a little water and much ground becomes wet;

with trees and grass, there is water." Of course, to maintain that forests are the key link in mountain regions is positively not the same thing as "concentrating only on one thing." Fundamentally speaking, forestry and farming, the livestock raising industry, processing industries, and other industries are mutually interdependent and mutually promoting. No one of them can be dispensed with. Simultaneous with development of forestry production must come rational arrangements for diligent attention to grain production, the adaptation of general methods to local situations for development of the livestock industry, industrial sideline occupations, processing industries and mining industries for active development of economic diversification, so that forests will advance grain and grain will advance forests for the all around development of farming, forestry, livestock raising, sideline occupations, and fisheries.

In view of the almost infinite variety of natural conditions in the geology, topography and climate of mountain regions, the complexities of situations, and the fairly numerous avenues for production, the conference expressed the view that mountain region construction must have a battle plan consistent with objective realities, i.e. an overall plan. Only by having a good plan can it be possible to set combat objectives and the main direction of attack and only then will it be possible to do overall planning taking all factors into account and make comprehensive arrangements, and only then will it be possible to avoid blindness, to increase scientificness, and to garner maximum economic benefits. In summarizing the experiences of various jurisdictions and formulating mountain region construction plans, problems to which emphasis should be given are the following: Centralized planning must be done for mountain waters, fields, forests, and roads, tackling them in a comprehensive way, both giving attention to current production and placing emphasis on long range construction. In the building of production and the development of science, culture, education, and health endeavors, overall considerations must be given. Full use must be made of the role of science and technology in the building of mountain regions, and all trades and industries must be organized for vigorous support of mountain region construction. Each jurisdiction must be permitted to adopt different methods of tackling problems and to carry out various different kinds of production responsibility systems, to establish different kinds of operations so as to fully arouse the enthusiasm of state-owned farms, people's communes, production brigades, production teams, vocational teams, and commune member households. Only in this way can concerted efforts be made and everybody keep in step in advancing into the mountains, each fighting his own war from a dominant position to hasten the pace of mountain region development.

The conference emphasized that development of the mountain regions is a long term and extraordinarily arduous task, the crux of which lies in the strengthening of leadership so that there will be leadership teams capable of conscientiously and thoroughly carrying out the party's line, programs and policies, that that will be imbued with an ardent sense of revolutionary missior and a spirit of creativity that is able to take the lead in action to open a new situation. The advanced units that spoke at this conference all possessed these characteristics. However, today some leadership teams in mountain regions lack great zeal. They attempt nothing and accomplish nothing.

All they do is keep doing the same old things, never starting anything new, and the natural situation in mountain regions remains the same old way year after year. In the case of such units, firm attention has to be given to ideological rectification and reorganization to help them establish strong leadership nuclei, to rouse their revoutionary spirit, and to increase their fighting capacity. In mountain regions every leadership team and every member of the Communist Party should be like the comrades from Wulian in their resolve to create wealth for the people and to leave behind green mountains and clear waters for posterity and positively not bequeath to them barren mountains and bald ranges. It is necessary to have lofty ideals and great ideals, to carry forward the spirit of the foolish old man who "would not stop digging the mountain," to struggle arduously, to charge forward at the head of one's men, to set a personal example, and to be a leader in the building of mountain regions.

Comrades who attended the conference studied pertinent instructions from the Central Committee and discussed Provincial CCP Committee and provincial government decisions (revised draft) on hastening the building of construction in mountain regions, as well as Comrade Bai Rubing's report. They compared the experiences of advanced units and summarized the lessons of their own experiences, expanded their horizons, increased their undertsanding, strengthened their sense of urgency and sense of responsibility for development of mountain regions. Everyone expressed themselves as determined to act in accordance with the call of the Provincial CCP Committee and provincial government, to fit actions to words, to bring about a change in the appearance of mountain regions within 3 years, to see results in 5 years, and to bring about great changes within 10 years, entirely afforesting the Yilin mountain lowland areas along streams by 1985 and substantially completing afforestation by 1990, so that all of Shandong will be greener and more luxuriant.

In order to give expression to the resolve to build up the mountain regions and to give impetus to a mass movement for taming the mountains and creating forests, comrades in charge at the Provincial CCP Committee and provincial government such as Bai Rubing, Li Zhen [2621 2182] and Zhou Zhen [0719 2182], and comrades in charge attending the conference from departments directly under the jurisdiction of prefectures, municipalities, counties, and the province planted gingko trees and pine trees at Wulian County.

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SCIENTIFIC TECHNIQUES FOR RAISING YIELDS CONVEYED TO PEASANTS

Jinan DAZHONG RIBAO in Chinese 4 Aug 82 p 3

[Article: "Reliance on Scientific Techniques to Improve Low Yield Fields. Experiments Increase Yields By 80 Percent on 100 Mu of Low Yield Wheat Fields in Huimin Prefecture"]

[Text] In a year of great drought, the Huimin Prefecture Science Commission has won remarkable results, increasing yields by 80 percent in experiments with techniques to increase yields from low yield wheat fields on a 100,000 mu experimental area. Yields have averaged 379 jin per mu, a 170 jin increase over the average yields for the previous 3 years. This action has been praised by the peasants as "the way for low yield fields to make a new start."

Low yield fields are the "old big difficulty" in that prefecture's development of agricultural production. The low yield field area for crops such as wheat, corn, soybeans, and cotton amount to a general 70 percent of the total area sown. Low yield fields with wheat yields of less than 150 jin per mu have occurred every year for the past 5 years over an area of more than 3 million mu. In order to improve these low yield fields through the use of scientific techniques, the Huimin Prefecture Science Commission launched experiments on the foundation of average 65 percent yield increases effected through the use of yield increase techniques last year on low yield corn, soybean, and cotton fields. Last year they again set up experiments with techniques for increasing yields on 100,000 mu of low yield wheat fields. During the entire growing season for wheat, they used 17 technical measures including replacement with superior varieties, increased fertilization with phosphate fertilizer, earliest possible sowing, and reasonably close planting. In order to verify each technique scientifically, at 23 sites they set up phosphate fertilizer experiments, comparisons of varieties, and watering season experiments as part of 13 different experiments. They planted 62.6 mu of experimental fields, and intensified qualitative and quantitative analysis of all techniques used in experiments.

In order to assure smooth conduct of experiments, within eight experimental areas they set up individual leadership teams composed of 55 persons in charge in counties, communes, and departments concerned, technical advisory groups composed of 73 specialized scientific and technical personnel, and eight experimental area technical teams. Throughout the period of the experiments, all experimental areas jointly conducted 39 technical training classes to train 5,846 attendees. They ran 26 technical boradcast lecture courses to a listnership of more than 22,000. They printed 21 pieces of technical data, which they issued in more than 50,000 copies. They also used night schools, country market publicity, performances in fields, and such methods to get techniques into the hands of the broad masses of peasants. In addition, they also instituted responsibility systems linking techniques to output, production responsibility systems, and cadre personal responsibility systems within the experimental areas, and they used contract agreements, economic methods, and systems of responsibility to fully arouse the enthusiasm of cadres, peasants, and scientific and technical personnel to do a good job of experimental work.

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SUCCESS OF ECONOMIC DIVERSIFICATION IN ONE PREFECTURE HAILED

Jinan DAZHONG RIBAO in Chinese 15 Jul 82 p 2

[Article: "Value of Good Plans Lies In Their Implementation; Remarkable Increase in Earnings from Economic Diversification in Taian Prefecture"]

[Text] The Taian Prefecture CCP Committee and government administrative offices have gained excellent results by emphasizing attention to the implementation of economic diversification production plans. As of the end of April, total earnings from economic diversification for the prefecture as a whole had increased by 34.2 percent over the same period last year. Three counties of the prefecture's eight counties and municipalities had earnings that were more than 50 percent greater than last year.

Formerly some counties and communes in this prefecture were frequently content with simply formulating plans for economically diversified production, but they did not devote much attention to the implementation of plans. As a result plans were not fulfilled, and some of them came to nothing. In order to change this state of affairs, this year the Prefecture CCP Committee and government administrative offices changed its method of leadership. It first achieved shortrange implementation of longrange plans, carrying out regular inspections in farming seasons on production links. The main thing they tackled during the first half of the year was the farming industry and the breeding industry. They supervised, urged on, and inspected, used every available means to combat drought to grow economically diversified crops, gave strict attention to the raising of newborn livestock, assuring increased output and increased earnings for the last half of the year. Second, they used contract agreements to put production plans into effect with teams, households, and individuals. In this regard, all counties sent out work teams to emphasize help to communes and brigades in further perfecting and stabilizing economic diversification contracting systems of responsibility, and in summarizing experiences at key points to guide work over wide areas. In addition they used loans or funds provided by collectives to assist hardship units and individuals in the implementation of production programs and the development of economic diversification, helping them do a good job of existing industrial sideline production projects, in closing economic gaps, in lowering production costs, and improving economic effectiveness. As a result of adoption of these measures, this year the prefecture has expanded its "economic fields," and plans for 244,500 mu have been entirely implemented. This measure alone can increase earnings by 48.1 million yuan. In the task of spring season tree planting and forestry management, in addition to large scale efforts to transform mountains through afforestation and making the four besides [besides roads, streams, villages, and houses] green, they intercropped tung trees and grain over a 366,300 mu area and newly planted 1.89 million fruit and nut trees, and 9,500 mu of mulberry groves. The prefecture's collective and individual raising of livestock and poultry of all kinds also increased remarkably. Fairly great increase occurred in the numbers of cattle, sheep and goats, rabbits, and geese raised, and the number of live hogs rose again. The number of long haired rabbits increased by 1.5 million. Industrial sideline production also saw new development in the prefecture's production brigades and production teams, and more than 10,000 new jobs in crushing stone, building, and food and beverage service have come into being.

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BRIEFS

GRAIN DRYER BUILT--The 5HY-2 grain dryer designed by the Provincial Farm Machinery Institute and the Weifang Prefecture Farm Machinery Institute and manufactured by the Linqu County Tractor Plant is of advanced design, is well-made, is sensibly engineered, is easy to set up, use, and move, and operates reliably. Recently technically approved, this machine operated in 25°C temperature at a relative humidity of 80 percent to dry grain with a 25 percent water content. At a water removal rate of 10 percent, it dried 2 tons of grain an hour for storage after a single drying. After drying, grain quality did not deteriorate, and it met nationally formulated standards. This is the first medium size grain drying machine to be designed and manufactured in China, and it is suitable for use on medium and small size farms and granaries. [Text] [Jinan DAZHONG RIBAO in Chinese 15 Jul 82 p 2] 9432

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YUNCHENG PREFECTURE'S MEASURES FOR FIGHTING DROUGHT EXPLAINED

Beijing NONGGUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, Aug 82 p 27

[Article by Yuncheng Prefecture CCP Committee Secretary Tong Yun [0104 7189]: "Persevere in Protracted Combat Against Drought to Win A Bumper Harvest for the Year as a Whole"]

[Text] Yuncheng Prefecture is the main grain producing area of Shanxi Province, yet it is an area where 9 out of 10 years are drought years. Total rainfall for the 1950's was 700 millimeters; during the 1960's, it was 600 millimeters; and total rainfall during the 1970's declined to from 400 to 500 millimeters. Since Liberation, 27 of 34 years have had protracted drought with little rain. Spring drought followed by summer drought occasions very great hardships for the development of agriculture.

Faced with such a grim problem, in its guidance of agricultural production the Prefecture CCP Committee has gradually established a mentality of protracted combat against drought making perseverance in protracted combat against drought a strategic matter of major importance that must be given attention in agricultural production. Since the Third Plenary Session of the 11th Party Central Committee, in particular, it has proceeded from realities both building water conservancy to improve upon nature and to summarize and promote traditional mass experiences in combat against drought to meet nature. It has repaired its house before it rains, guarded against drought when there was no drought, combatted drought when there was drought, and persevered in combat against drought to win bumper harvests.

First of all we have assiduously summarized and promoted the traditional farming methods of drought stricken Wanrong and Linyi prefectures of "harrowing whenever it rains," and the method for combatting drought and conserving soil moisture used by Dongguanzhung in Wenxi County of raking after plowing on hot summer days to "put summer rains to use in spring," and leveling fields to make the surface crumbly and the bottom solid to reduce moisture evaporation. The masses refer to this method as "being busy for three days after a rain, busy at conserving soil moisture." At the same time every available means is used to store water that falls from the sky. Most of the prefectures 132 reservoirs store water during spring to make ready the water needed during the three 10 day periods of the hot season.

Last August the summer drought was severe. I went to Sanquan Commune in Xinjiang County where together with comrades in charge from the County CCP Committee we watched them use the grape reservoirs built of small amounts of water from small springs. This invention of the masses is handy and easy to use, requires little expenditure of money, and shows quick results. Following discussions with the local masses, full use was made of small spring water resources to enlarge the irrigated area by more than 20,000 mu. Next we spread this experience throughout the prefecture, Ruicheng and other counties made full use of small amounts of water from small springs to build grape reservoirs with very good effectiveness. More than 2,500 small water conservancy construction projects have now been built throughout the prefecture with wells taking the place of ponds, and stations taking the place of ponds for storage when it rains and use when it is dry to expand the well-irrigated area and increase ability to combat summer drought.

Second, while summarizing and perfecting agricultural production responsibility systems, we conscientiously established and perfected water conservancy responsibility systems using every available means to increase the water utilization rate for water conservancy facilities. Many years practice has shown that eating out of a large common pot does not work, and that "drinking out of a large pot" sows endless seeds of disaster. First, we summarized and promoted the experiences of Qiaoxue Production Brigade in Wanrong in centralized management and centralized maintenance of wells, and centralized provisions for persons to look after the wells within the institution of commune member ticket purchases for irrigation. The advantages of this responsibility system were both maintenance of water conservancy facilities to make the most of the role of water conservancy facilities, and arousal of the enthusiasm of commune members for irrigating their fields while closing loopholes in payment for water and electric power. Now, more than 85 percent of water conservancy facilities and deep wells have set up different forms of responsibility systems, which not only save water and electric power, but also make for faster and better watering of the fields. Benefits from irrigation have increased remarkably, and the in-service rate and the utilization rate for equipment has increased from the former 55 percent to better than 80 percent. Since last year the irrigated area throughout the province has expanded by 212,000 mu. Water management units have also engaged in economic diversification for earnings totaling 2,050,000 yuan to create an all time high.

Third, in light of the drought that characterizes Yuncheng Prefecture, we have bred and introduced more than 10 drought resistant varieties of wheat and cotton and have increased fertilization with organic fertilizer, rather effectively withstanding drought disaster onslaughts. Formerly, as soon as drought stricken areas encountered the summer drought, between 400,000 and 500,000 mu of autumn crops would be damaged. Now, the drought resistant crop varieties that have been bred and introduced ripen relatively early, some of them avoiding the summer drought. For example when corn was planted where wheat was growing, for the 500,000 mu of intercropped corn, flowering and booting stages avoided the choking drought. In addition, we also gave serious attention to increase in organic fertilizer to improve the soil's ability to withstand drought. It has been found that between May and October fertile soil with an organic content of 1.11 percent evaporates between 14 and 19 percent less moisture than infertile soil with an organic content of 0.6 percent. Were the infertile soil to be transformed into fertile soil, that would be the same as 520 millimeters of rainfall a year being increased to 750 millimeters. Consequently, in our crop patterns, we must arrange for the green manuring and return to the fields of stalks and stems on more than 100,000 mu to increase soil fertility and ability to preserve moisture.

Since last winter Yuncheng Prefecture has not had a soaking rain, and the drought continues. The masses continue to fight drought, striving to win a bumper harvest for the year as a whole.

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RAINY SEASON AFFORESTATION STATISTICS GIVEN

Beijing RENMIN RIBAO in Chinese 26 Jul 82 p 1

[Article: "More Than 240,000 Mu Afforested in Shanxi During Rainy Season; Firm Grip Taken on Advantageous Opportunity to Rush Plant"]

[Text] As the year rolled into July, the Shanxi rainy season tree planting and afforestation campaign steadily unfolded from north to south. As of 22 July more than 240,000 mu had been afforested throughout the province though afforestation of 226,000 mu had been anticipated. In former years the onset of July brought continuous overcast and rainy weather in most parts of the province. This year, once the rainy season began, rainfall in many places tended to be light. Faced with such unfavorable weather, all locales bided their time, getting ready to plant trees and do afforestation before the arrival of the rains, and once a soaking rain fell, they immediately rush transplanted and rush planted. The 21 counties in the western mountain region of Shanxi Province, which are part of the three norths shelter forest system, have afforested more than 172,000 mu as of now. Within less than 20 days Huguan County afforested more than 35,000 mu.

While all jurisdictions in Shanxi were using people to afforest, they also began active airplane sowing for afforestation. Statistics from the four counties of Bianguan, Kefeng, Wuzhai, and Lishi alone show that during this year's rainy season aircraft sowed seeds for the afforestation of more than 85,000 mu.

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FIFTH CONSECUTIVE BUMPER RAPESEED HARVEST REPORTED

Chengdu SICHUAN RIBAO in Chinese 10 Jul 82 p 1

[Article: "Province Overfulfills Rapeseed Procurement Plans; Bumper Rapeseed Crops Harvested For 5 Consecutive Years"]

[Text] This year Sichuan harvested a bumper rapeseed crop for the fifth year in a row. Output totaled more than 2.16 billion jin, a more than 30 percent increase over last year and exceeding the level of any other period in history. As of 5 July, more than 1.99 billion jin of rapeseed had been purchased in the province, 489 million jin more than the amount called for in procurement plans handed down by the province for 32.3 percent overfulfillment of plan.

In order to do a good job in this year's rapeseed procurement work, before the rapeseed was harvested grain departments conducted training of personnel, increased the number of network outlets, built and repaired a group of granaries and oil storage facilities, and used various methods to give wide publicity to the peasants about no changes in this year's rapeseed procurement policies, no changes in procurement prices, no time limit on procurement, and no limit on quantities that would be purchased, fully satisfying peasant requirements and demands in selling rapeseed. During procurement all jurisdictions strictly carried out a system of classification and grade inspection, overcoming any attempts to deprecate quality in order to drive down price or inflating quality in order to raise price, and assuring quality of rapeseeds put into storage so that both the country and the peasants would stand to gain. Now, peasants everywhere are continuing to sell the state their sun-dried rapeseeds.

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LARGE INCREASE IN CONSUMER GOODS PURCHASES REPORTED

Chengdu SICHUAN RIBAO in Chinese 13 Jul 82 p 1

[Article by Finance and Trade Department, Sichuan Provincial Statistical Bureau: "Province's Rural Markets Unprecedentedly Active; Great Bumper Harvests From Crops Sown in Late Autumn; Tremendously Increased Purchases of Agriculture and Sideline Products"]

[Text] This year the province's rural villages have instituted production responsibility systems everywhere; a bumper crop of crops sown late last autumn has been joyously harvested; and quantities of agricultural and sideline products purchased by the state have increased tremendously. As of the end of June, 64.7 percent more rapeseeds had been purchased than last year, 14.4 percent more grain, 4.3 percent more spring cocoons, 62.6 percent more spring vegetables, and 57.8 percent more jute. Purchases of agricultural and sideline products during the first half of the year totaled 2.865 billion yuan in value, a 22.6 percent increase over the same period last year. Cash disbursements by banks and credit cooperatives to rural villages this year for the purchase of agricultural and sideline products were more than 400 million yuan greater than for the same period last year, an increase of 48.5 percent. As a result, rural markets were unprecedentedly active during June of this year. Social commodity sales figures for the province during June stood at 1.495 billion yuan, 16.6 percent greater than during the previous month and 16.6 percent greater than during the same period last year, for a new all time high for social commodity retail sales figures for June. Rural retail sales of consumption goods amounted to 604 million yuan, 26.4 percent and 17.9 percent greater than for the previous month and the same month last year respectively. Prefecture by prefecture breakdown shows greatest increase in retail sales figures for grain and edible oils. A breakdown by varieties shows greatest increase was in agricultural means of production. June retail sales figures were 33.2 percent and 28.0 greater respectively than for the previous month and for the same month last year. Chemical fertilizer sales to rural villages increased by 44.4 percent over the same month last year. Pesticide sales increased by 53.9 percent over the same month last year. Sales were very brisk for all major industrial goods such as cotton-polyester cloth, chemical fiber cloth, cotton cloth, watches, transistor radios, sewing machines, bicycles, soap, and laundry powder.

Problems in markets deserving of attention just now are as follows: Stocks of goods in storage in commercial departments have increased very greatly requiring active assembly of industrial goods to be sent to the countryside. As of the end of June, commodities stored in large and medium size cities and in county seats accounted for 76.3 percent of the total value of stored goods; commodities sent to the countryside amounted to only 23.6 percent of value. Market situation estimates by some grassroots level commercial departments following the bumper harvest of autumn planted crops were inadequate. They did not dare bring in goods courageously, with the result that in some places Chongqing and Shanghai wristwatches, transistor radios, cool foam shoes and chemical fertilizer ran out of stock.

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SUMMER GRAIN PROCUREMENT QUOTAS OVERFULFILLED

Chengdu SICHUAN RIBAO in Chinese 14 Jul 82 p 1

[Article: "Province's Summer Grain State Procurement Quotas Overfulfilled"]

[Text] This year Sichuan Province has once again harvested a bumper summer grain crop, output rising by more than 10 percent over last year. As of 5 July the province had already exceeded state summer grain procurement quotas by 8.8 percent, the amount in storage being 550 million jin more than for the same period last year. Quality of grain in storage was also better than last year, and the wheat flour milling rate was higher than last year.

Under the leadership of local party and government, grain departments at all levels this year assiduously carried into effect the principle of concurrent concern for the welfare of the country, the collective and commune members as well as price policies, and actively helped production teams implement household by household sales quotas, institute the setting up of outlets in designated stretches, arrange appointments to turn over grain, and improve service attitudes as a convenience for commune member grain sales to the state.

While actively purchasing, grain departments everywhere also gave attention to provisions for mass welfare, promptly making arrangements for the small number of people whose grain rations did not last until the fall crop could be harvested.

9432
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POLICY REGULATIONS ISSUED ON RURAL ECONOMIC DEVELOPMENT

Chengdu SICHUAN RIBAO in Chinese 14 Jul 82 pp 1,2

[Article: "Provincial CCP Committee and Provincial Government Enact 10 Policy Regulations to Meet New Circumstances and To Hasten Rural Economic Development"]

[Text] On 29 June, the Sichuan Provincial CCP Committee and Sichuan Provincial People's Government issued "Policy Regulations on Various Problems in the Hastening of Sichuan Province's Rural Economic Development, the text of which said as follows:

In order to hasten Sichuan Province's rural economic development, while continuing to carry out a series of effective programs and policies from the Central Committee and the Provincial CCP Committee, in order to meet new circumstances it is necessary to adopt some policy measures. Following full discussion by the Provincial CCP Committee work conference, the Provincial CCP Committee and provincial government enacted the following policy regulations.

1. In the work of instituting the "two systems" in forestry, all places where conditions permit may suitably allocate more privately retained mountains for commune members, and designate barren mountains, wasteland slopes, and unused land that the collective cannot readily use for the planting of trees and afforestation by commune member households. Ownership of the land will still belong to the collective, but ownership of the forest trees will belong to commune members with the right of inheritance. Commune members should be energetically encouraged to plant small orchards, small mulberry groves, and small tea gardens as well as to grow other economic woodlands in front of and behind their houses, on private plots, on privately retained mountains, and in places designated by production teams, all income reverting to themselves, with no changes to be made for a long period of time. The state and collectives are to lend active support in the supply of seedlings and technical guidance.

Collectively owned continuous tract woodlands are to institute "four specializations and one contracting." Economic woodlands in cultivated lands and along fields should be contracted out together with the fields as part of a unified whole, earnings or benefits to be paid to hire authority from the assumption of sole responsibility for task completion being proportionally divided so the directly involved enterprises gains more the more he works. Bald mountain and barren slope tracts that lend themselves to collective endeavors should be run by specialized units and specialized teams organized by production teams. Alternatively, they may be handled as responsibility mountains and contracted out to commune member households for the planting of trees, no changes being made for a long period following contracting, benefits being divided between the collective and the commune members, the commune members getting the greater share.

2. State owned forests that the state is unable to take care of should be contracted to the care of on-site communes and brigades with proper remuneration being given them. Railway and highway right of ways, the banks of streams and trunk irrigation canals, and the areas around reservoirs that have already been afforested are to be strictly protected. Where trees have not yet been planted, units in charge may do the afforestation and retain ownership of them, or they may afforest jointly with communes and brigades, proceeds being proportionally divided. Alternatively, following agreement from units in charge, nearby communes and brigades may do the afforestation, the trees reverting to the ownership of the commune or brigade or to the commune members, However, felling of trees may be done only on the authority of units in charge.

3. In high mountains or places way back in the hills, attention should be devoted to the building of basic farmlands and to increasing yields per unit of area. While assuring steady increases in total grain output, steep slopes that should gradually be withdrawn from cultivation and revert to forests or pasturelands may become reserve lands for production teams and contracted to specialized teams or specialized households for the planting of trees and the growing of grass. Responsibility lands that have been contracted to commune member households may, so long as fulfillment of payments to higher authority are assured and with no changes for a long period of time on contracted lands, be afforested by contracting households, earnings being retained by them. The foregoing methods may also be used by collectives to provide contracting households with seedlings for planting with payment of stipulated remuneration, a certain amount of earnings being paid to higher authority, or earnings being proportionally divided, the commune members receiving the greater portion.

4. In 1980 the Provincial CCP Committee decided that beginning in 1981, "the provincial treasury would annually allocate about 15 million yuan for use within the province (including mountain areas of the province) to subsidize communes and brigades to afforest 1 million mu with quick growing high output timber." In the same year, a provincial government document made specific arrangements in this regard. This is a major policy for hastening the building of forestry

within the province, which has gained the deep support of the masses. Departments concerned should conduct an inspection of the implementation of last year's decisions and of arrangements for this year's plans, solve existing problems, and assure that policies continue to be honored. Funds for the growing of forests and development funds may be used only for the planting of trees in afforestation; they may not be diverted to other uses.

5. In 1980 the Provincial CCP Committee decided to allocate 395 million jin of grain as assistance for use in helping mountain regions and poor brigade and minority nationality area communes and brigades to rest and recuperate, to readjust the structure of their agriculture, and to develop production. Practice has shown results to have been very good. The ordinally prescribed time was 3 years, and it has now been decided that this policy is to continue in force until 1990. Norms given by the province to prefectures, municipalities, and zhous remain unchanged; norms from prefectures, municipalities and zhous to counties, and norms from counties to communes and brigades may be suitably readjusted on the basis of changed circumstances in the development of production, and in accordance with the principle of rational utilization. These grain norms should be used by counties in centralized planning, mostly in the withdrawal of land from cultivation for reversion to forests or pasturelands and for reducing procurement or setting sales in production teams that have low yields and are short of grain, as well as for assistance in the building of forestry, livestock industry or economic diversification bases. Generally there is to be no linking of state procurement of agricultural and native sideline products to grain.

6. In order to give mountain region counties a little more initiative on the grain issue in order to carry out readjustment of their agricultural structure, it was decided to institute assumption of full responsibility for grain in high mountain areas (not including the three zhous). In the assumption of full responsibility method, because of the prevailing margin between procurement and sales in areas concerned with some fixing amounts of assistance, some fixing amounts to be paid to higher authority, some seeking balance, a corresponding system of sole fiscal responsibility has been instituted and guaranteed without change for 5 years.

In mountain counties where financial outlays are greater than financial income year after year, sole responsibility for fiscal subsidies is to be tried out. This entails taking the 1982 budget as the base figures, instituting fixed amount subsidies for the difference between expenditures and revenues, with no change guaranteed for 3 years. Increased revenues and savings on expenditures are controlled by counties and used principally for development of the economy of the mountain area, for the building of highways, for cultural and educational endeavors, and for the popularization of science and technology. Following assumption of sole responsibility, except for the readjustment wages of administrative enterprenural units, which will be borne by the province, all other reduced revenue and increased expenditure matters newly approved by higher authority will be borne by the county assuming sole responsibility.

In the matter of specific methods for the three prefectures of Fuling, Wanxian, and Yaan in which public funds expenditures are greater than revenues the province will institute a system of sole responsibility for fixed sum support on the basis of the foregoing principle for the prefectures. Sole responsibility methods for counties are to be decided by prefectures. For remaining mountain region counties in which public funds expenditures are greater than revenues, prefectures will institute sole responsibility for counties, and the province will continue to maintain without change the prevailing financial system in these prefectures; however, in figuring the financial quotas for these prefectures, the increased fiscal revenues of counties assuming sole responsibility are to be eliminated.

7. In instituting base figure procurement and proportional procurement of agricultural and sideline products, basic stability is to be maintained. A conscientious job is to be done with the contracts system. State centralized procurement, assigned procurement and allocation quotas are to be assured fulfillment. For products designated by policies as being left to collectives and commune members for their own disposition, the right of self-determination is also to be assured. Specific regulations handed down by all trades and industries in this regard must be in total agreement with the regulations of the Provincial CCP Committee and provincial government.

8. Institution of various forms of joint operations and integrated operations is a path that has to be taken to hasten development of the rural economy. While adhering to the principles of voluntary participation, mutual benefit, equality, and discussion, encouragement should be given the breaking of regional, trade and ownership lines for development of various forms of joint enterprises. Units participating in jointly run enterprises are to maintain their original ownership, their command relationships, their basic accounting units, and their tax and earnings calculation and payment relationships without change, basic accounting units figuring output value and figuring tax levies to be collected. All levels of CCP committees, government, and departments concerned are to enhance guidance to the various kinds of joint enterprises, avoid duplication in the construction of plants, and help in the distribution of economic benefits to harmonize relationships of all parties. Design commissions, economic commissions, and state enterprises concerned at all levels are to adopt various forms of joint operations and economic and technical cooperation to help mountain region countries and national minority areas develop processing industries and mining industries, and to carry out preliminary processing and all around use of products. The experiences in joint operation of joint enterprises of Qionglai, Dazhu, Hechuan, and Helin counties are to be summarized and promoted. In addition, vigorous development should be given various forms of rural specialized households, key households, and joint enterprise households,

support given commune member household sideline occupations, and encouragement given commune members to become prosperous through labor.

9. In order to train technicians possessed of various kinds of specialized knowledge needed in rural villages, reform of the structure of rural secondary school education has to be hastened. Most counties are to change within a period of 2 or 3 years the present general middle school system into a so-called vocational middle school (not including job assignments), and to operate upper middle school vocational classes and vocational technical courses in ordinary middle schools. After ordinary middle schools have been changed to vocational middle schools, channels for expenditures will remain unchanged under the centralized management of the educational departments, with additional payments for specialized teacher wages. Departments concerned are to organize some specialized technical personnel to serve concurrently in work positions and to teach, and to lend support in fieldwork sites and in needed experimental facilities. All departments of all industries are to operate various short term technical training classes as requirements dictate.

10. In order to fill out and strengthen commune cadre ranks where shortages exist in terms of current commune tables of organization, in addition to the three ways proposed this year by the Provincial CCP Committee (namely, 1. annual selection from among the graduates of schools specializing in farming, forestry, aquatic products, and finance and trade of a group for assignment to work in communes; 2. selection of personnel qualified to be cadres and who hold prospects for training from among those who are to replace retired cadres for transfer to communes to work for workers' wages after they have been comprehensively certified; then, after 2 years of tempering and testing, the finest being selected for promotion to cadre; 3. selection from among enterprises, institutions, and administrative units owned by all the people of a group of outstanding farming technicians and young cadres to fill the commune cadre ranks), cadres partially relieved of regular duties in communes, and outstanding party member cadres in production brigades and production teams may be selected. Following strict testing, the young and strong who are cultured, understand technology, and have definite work ability may be sent to fill up the ranks.

This document concluded by saying that if any of the foregoing regulations do not accord with documents formerly issued by the Provincial CCP Committee and provincial government, the regulations contained herein are to be applied. All levels of CCP committees and government, and all provincial level departments concerned are to prepare specific methods of implementation in accordance with the foregoing regulations and assure their implementation.

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BRIEFS

LIVESTOCK PRODUCTION UP--This year the animal husbandry industry in the Xinjiang-Uighur Autonomous Region had a bumper crop. Statistics show that as of the end of June 9.5 million head of lambs and kids, foals, calves, and young camels had been born and survived, an all time high since founding of the People's Republic in the number of young livestock animals obtained. More than 34 million head of livestock were in inventory, a more than 1.5 million head increase over the last livestock industry year. This is the fifth year in which the Xinjiang animal husbandry industry had a bumper crop of livestock. [Text] [Beijing RENMIN RIBAO in Chinese 26 Jul 82 p 1] 9432

CSO: 4007/512

XIZANG

THREE STAGE PLAN FOR XIZANG ECONOMIC DEVELOPMENT OUTLINED

Beijing RENMIN RIBAO in Chinese 3 Aug 82 p 1

[Article: "Xizang Formulates Measures for Development of Farming and Livestock Industries to Hasten the Pace of Becoming Prospersous, Aims For a Small Change Within 3 Years, a Moderate Change in 5 years, and a Major Change in 10 Years. Continued Need to Make the Most of the Power of Policies, to Improve Production Conditions, and to Use Advanced Scientific Techniques"]

[Text] Recently the Xizang Autonomous Region CCP Committee and Autonomous Region People's Government convened a regional work conference on the rural pastoral area, which set a battle goal and specific measures to be taken for "a small change within 3 years, a moderate change within 5 years, and a major change within 10 years" to give guidance to the broad masses of peasants and herdsmen now that the problem of food and clothing has been preliminarily solved in order to make efforts to advance in depth and in breadth, to carry out economic cultural and economic construction in a planned step by step way, so that Xizang will gradually flourish and become prosperous.

The autonomous region CCP Committee raised the goal of a small change within 3 years, a moderate change within 5 years and a major change within 10 years on the basis of an idea and a demand put forward by comrades Hu Yaobang and Wan Li during an inspection trip they made to Xizang in May 1980. Following 2 years of rest and recuperation, the farming and livestock industry production of the entire region has revived and developed. The problem of food and clothing has been solved for more than 90 percent of the masses, and average per capita earnings for peasants and herdsmen amounts to 200 yuan. This provides a material foundation for guiding the peasants and herdsmen to cure poverty further and become prosperous.

The goal of one small change within 3 years is as follows: Beginning in 1980 and after 3 years of effort to make production develop after having been revived for a preliminary breaking away from poverty, average per capita earnings for peasants and herdsmen reaching 220 to 230 yuan, and average per capita earnings in 20 percent of counties, brigades and households reaching 300 yuan. The goal of moderate change is the realization of consistent development of production by the end of 1985 with a complete break away from poverty, average per capita income amounting to from 280 to 300 yuan. The idea of major change is substantial development of production by the end of 1990 with the realization of initial prosperity, average per capita earnings amounting to from 400 to 500 yuan. Specific standards were also set for the peasants' and herdsmen's food, clothing, daily use items, housing, travel, culture, education, science and technology, health, party style, civilian behavior, and spiritual civilization at different stages. On the basis of present circumstances, all prefectures, counties, communes and brigades have formulated, or are now formulating, individual goals and plans.

Acting on the basis of actual circumstances in Xizang, everybody diligently studied measures for realizing the aforestated objectives. They pointed out that henceforth substantial development will be required and, in addition to bringing further into play the power of policies, it will also be necessary to rely on improved production conditions and the adoption of advanced scientific techniques. Currently, grain yields per unit of area and per capita are below levels for the country as a whole. Though the number of livestock per capita is the highest in the country, livestock products per capita are lower, on average, than in other pastoral regions of the country. In order to change this state of affairs, while maintaining policies unchanged, it is necessary to guide peasants and herdsmen in proceeding in accordance with abilities to carry out capital construction of farming and the livestock industry, and on the foundation existing in Xizang to promote simple and useable, advanced scientific techniques with outstanding benefits.

A look back at 2 years of experiences caused everyone to emphatically note that the elimination of poverty must rely primarily on farming and the livestock industry, and that becoming prosperous will require, to a very large extent, reliance on economic diversification. Xizang has a large area and numerous resources, yet the utilization rate is the lowest in the country, and it is a place in which tremendous potential for development exists.

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'SET BASE PROCUREMENT FIGURE' SYSTEM EXPLAINED

Beijing NONGGUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 8, Aug 82 pp 42, 43

[Article by Zhejiang Provincial Agricultural Commission Office: "Accurately Set Base Procurement Figures to Advance Development of Production"]

[Text] Zhejiang Province's natural resources for agriculture are plentiful and rural economic diversification is well developed. It is an integrated agricultural region. Presently procurement consists principally of agricultural and sideline products with the institution of "accurately set base procurement figures" guaranteed to remain unchanged for several years, output in excess of quotas being divided between state procurement and retention by producers with bonuses being given for excess procurement, (which will be termed "fixed base figures" below).

Why The Need For Fixed Base Figures

It is fully necessary for the state to carry out state requisition procurement and assigned procurement policies for major agricultural and sideline products. However in the procurement of Category II agricultural and sideline products, there has been stifling centralization and over regulation, the more produced, the more procured and the more shipped, producers lacking self-determination in controlling a portion of the agricultural and sideline products and finding it difficult to use left-over products for development of processing industries. This has hurt the peasant's legitimate economic interests and stifled peasant initiative for development of commodity production.

Following the Third Plenary Session [of the 11th Party Central Committee], the Central Committee took a series of actions to effect major readjustment of agricultural policies. In pursuit of a program of "emancipation of thinking, liberalization of policies, and enlivening the economy," Zhejiang Province summarized the lessons of experience in procurement of agricultural and sideline products, and gained enlightenment from the practice of fixed base figures in the procurement of grain, cotton, and oil-bearing crops. Then, following the spirit of taking the national economy as the key link with market regulation being supplementary, giving concurrent concern to the welfare of the country, the collective, and commune members, looking after both production area and marketing area, rural and urban needs, and following discussion and study with sectors concerned, the provincial government approved institution, beginning in 1980, of "fixed base figures" for 14 kinds of Category II agricultural and sideline products including tea, citrus fruits, mat straw, Catalpa timber, Chinese tallow tree seeds, rosin, raw lacquer, and aquatic products.

How Base Figures Are Set

The main points of the "fixed base figures" that Zhejiang Province instituted for 14 kinds of Category II agricultural and sideline products were as follows:

First, a well defined guiding thought on "fixed base figure" to ensure fulfillment of state quotas. "Fixed base figures" are, in reality, assigned procurement. Their basic point of departure is: no decline in existing state procurement levels, but increases still being possible; guaranteeing commune and brigade self-determination in the handling of products remaining after fulfillment of state prescribed sales quotas so that the peasants will be able to gain concrete benefits from efforts to increase production. Depending on different circumstances for different products, the base figures to be set for some will be either average actual procurement last year or for the past several years, while for others quotas will be set on the basis of calculation of proportional procurement by the state and retention by producers of average quantities for the present year or for the past several years, guaranteed not to change for several years. For example, tea, is a major special product of the province and also has traditionally been a major export item. In 1979 it accounted for one-fourth of the national output and the quantity purchased by the state, and for 30 percent of the national quantity exported. In a trial run of "set base procurement figures, division of production in excess of quota and reduction of taxes on excess procurement, giving up some profit," the base figure used was actual procurement in 1978, the province implementing these figures echelon by echelon to the counties, communes, and production brigades, no change guaranteed for 5 years. Tea produced in excess of base figures was divided up 60-40, i.e., 60 percent was procured under state plan, and 40 percent was under the control of communes and brigades. The portion under control of communes and brigades could be marketed freely or arrangements made to send it to other provinces; alternately it could also be sold to the state.

Second was to permit peasants to gain more benefits from increases in production and sales in excess of quotas. The main way in which this was done was as follows: One was to reduce taxes by giving up some profit. In the case of tea, for example, the portion that was a part of base figures was purchased at list price. The portion in excess of base figures could be sold to the state (as unfired tea leaf) at a reduced tax rate, the state tea plants giving up some of their profits thereby. As a benefit of the reduction in taxes, the 30 percent increase over list price for spring tea, and the 25 percent increase for summer and autumn tea was paid directly to producing units with no additional bonuses being given. For the portion of profits given up, 70 percent of state tea plant processing profits were rebated to tea producing counties that had exceeded base figures for their use in developing tea production. Second was purchase at negotiated prices of amounts in excess of base figures. Provincial level departments in charge centrally set fluctuating prices, maximum ceiling prices and maximum floor prices for different individual products on the basis of stable price policies. Third was the use of two kinds of prices. By this is meant that a certain proportion from within assigned quotas was designated for procurement at subsidized price or negotiated price. In the case of Chinese tallow tree seeds (or Chinese tallow oil), for example, no matter the quantities purchased, and irrespective of collective or state farm distinctions, one-half of the actual amount offered for sale was purchased at list price and one-half was purchased at a subsidized price. Fourth was assistance funds given for production. For sugarcane, for example, for every dan purchased at the prevailing average price of 2.25 yuan, 0.45 yuan in assistance funds was given for production to be paid by sugar mills at the time of purchase. The problem of a source of funds for this purpose was solved through the transfer of industrial and commercial profits and reduction or exemption from industrial and commercial taxes.

Third, appropriate readjustment of market management was done. The provincial government issued instructions for the readjustment of agricultural and sideline product market management classification tables and limitations on negotiated purchases and negotiated sales requiring that except for silkworm cocoons, cowhides and such industrial raw materials, all other Category II agricultural and sideline products could, following producer unit fulfillment of quotas, be sent to market for individual or joint marketing, could be processed by producers for the development of agriculture, industry, and commerce, or could be consigned to commercial departments to act as procurement and marketing agents. It was stipulated that until such time as any given commune (or state farm) had completed its quotas for citrus fruits, none could be sent to market. However, once any given commune (or state farm) had fulfilled individual unit quotas for individual varieties, as attested by issuance of certification by the local supply and marketing cooperative, it had the right to sell individually or to organize joint sales, had the right to undertake processing, or to arrange with the supply and marketing cooperative for purchases and sales at negotiated prices, or have the supply and marketing cooperative act as agent in purchase and sales.

Outstanding Results After Two Years of Implementation

Practice has shown that following "set base figures", not only was fulfillment of state procurement and upward assignment quotas guaranteed, but the interests of local areas, communes and brigades, and peasants were looked after for advancement of the development of production. Specific benefits were as follows:

First, promotion of the development of production. Comparison of 1981 with 1979 shows an 80,000 mu increase in the silkworm mulberry area in the province and a 13 percent rise in silkworm cocoon output; a 150,000 mu increase in the tea growing area and a 33.8 percent increase in output; a 140,000 mu increase in the citrus growing area, a 270,000 mu increase in the jute growing area, and a respective 22 and 6.5 percent increase in output in 1981 as compared to 1980. Increases also occurred in the afforested area, in moso bamboo reserves, in tung seeds, Chinese tallow tree seeds, and freshwater fish.

Second was assured state procurements. Following "fixed base figures," except in the case of individual varieties, the procurement quotas handed down by the province were all overfulfilled. During the first year, the total value of agricultural and sideline products purchased by the supply and marketing system increased 5.3 percent to reach 1.27 billion yuan. This included procurement of 1.23 million dan of silkworm cocoons, an 11.8 percent increase and 23 percent more than base figures; and 1.35 million dan of tea, an 11.8 percent increase and 22.7 percent more than base figure. Last year was the second year of "fixed base figures," and the province overfulfilled, a whole month ahead of schedule, its procurement quotas for the year as a whole, the total procurement figures increasing by another 10.3 percent. This included procurement of 1,554,000 dan of tea, 454,700 dan over the base figure; and 1.24 million dan of silkworm cocoons, 240,000 dan more than the base figure. As a result of increase in quantities purchased, the supply requirements of light and textile industries, the foreign export trade, and markets were substantially assured.

Third was increase in peasant income. Statistics for 2 years on "fixed base figures" for five kinds of tea show that after fulfilling base figures, the added price peasants obtained from the sale of quantities in excess of base figures was 46.27 million yuan. The added price peasants obtained from base figures for 14 kinds of products amounted to approximately 100 million yuan. If benefits obtained from individual marketing or processing of products following fulfillment of base figures is added to this, increased peasant earnings amount to more than 150 million yuan. Despite two consecutive years of decrease in grain output in Zhejiang Province as a result of disasters, the number of brigades in which per capita earnings from the collective averaged more than 300 yuan still rose from 129 in 1979 to 660 in 1981 (not including marine fishing industry production brigades).

Fourth, it increased state earnings. Statistics on the province's tea, cotton, silkworm cocoons, sugarcane, and jute show that over a 2 year period state tax revenues from the portion procured in excess of base figures amounted to 102.82 million yuan and industrial profits amounted to 95.55 million yuan for a total increase in earnings of 198.37 million yuan. Increased price payments amounted to only 75.03 million yuan, however, or only 37.82 percent of national earnings.

In short, results have been outstanding from 2 years of implementation of "fixed base figures." This method should gradually become a basic method for embodying the principle of taking the planned economy as the key link with market regulation being supplementary in the procurement of agricultural and sideline products.

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LIVESTOCK FEED PRODUCTION REPORTED GREATLY INCREASED

Beijing ZHONGGUO CAIMAO BAO in Chinese 3 Aug 82 p 2

[Article: "Zhejiang Province Energetically Develops Livestock Feed Processing Industry; Plans Building of 120 Plants in 3 Years For a Livestock Feed Processing Capacity of 1 Billion Jin"]

[Text] Zhejiang Province, one of the major hog raising centers of the country, is gradually building a livestock feed processing industry system. The province is preparing to build 120 livestock feed plants between now and 1984, increasing to 1 billion jin its livestock feed production capacity.

The provincewide livestock feed work conference recently convened by the Provincial Food Department made specific arrangements for implementation of this year's plant building plans. Full use is to be made of surplus plant buildings and equipment at existing grain and oil processing plants, and the path of tapping potential, restructuring, and improving is to be taken in carrying out expansion and improvements. An overwhelming majority of the 60 plants planned for this year will be completed and go into production this year.

Zhejiang Province annually uses more than 3 billion jin of grain as livestock feed. In raising hogs, in addition to the use of proper amounts of coarse green fodder, the peasants have always used mostly grains for livestock feed. Particularly in prefectures like Jiaxing and Jinhua, which are major rice producing areas, and where little other grain is grown, the peasants mostly feed rice to their hogs. This feeding method wastes a lot of grain, is costly, does not provide complete nutrition, requires a long feeding period, and wastes both labor and firewood.

In order to change this peasant feeding method and promote development of hog production, the Provincial People's Government has adopted numerous measures during the past 2 or 3 years, and has vigorously increased production and promotion of the use of blended livestock feeds and mixed livestock feeds. Province provided funds for investment in development of the livestock feed industry for the period 1979 to 1981 amounted to 5.8 million yuan for the building of 40 livestock feed plants. As of now, 25 of these plants have been constructed. Each of these plants makes full use of silkworm chrysalises, fish meal, bone meal, powdered blood, rapeseed cake, cottonseed cake, and such protein resources to produce blended feeds and mixed feeds. Last year production increased to 400 million jin, and this year it is expected to rise to 500 million jin. In addition to assuring state award sales, the product of these plants, which uses corn to make blended and mixed livestock feeds, is traded with the peasants for rice. During the last half of last year alone, the province took in more than 50 million jin of paddy in exchanges. Not only was hog production promoted, but national storage of paddy was augmented.

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RUNNING WATER PROVIDED TO SELECTED RURAL AREAS

Beijing RENMIN RIBAO in Chinese 26 Jul 82 p 1

[Article: "More Than 3 Million Peasants in Zhejiang Province Served By Running Water; More Than 3,900 Running Water Plants Built in Rural Villages"]

[Text] Zhejiang Province has built more than 3,900 rural running water plants, and more than 3.5 million peasants are users of clean, sanitary running water.

Rural villages in Zhejiang Province have always used mostly river and pond water for drinking, but water quality was poor and pollution serious. The masses urgently demanded improvement in drinking water conditions. Provincial Governor Li Fengping [2621 0023 1627] and Vice Governor Liu Yifu [0491 0076 1133] went into rural villages on several occasions, going to places where drinking water conditions were poor and the incidence of disease high to gain an understanding of conditions, obtain firsthand data, and direct water improvement work. Ever since last year, many counties and cities including Ningbo, Jiaxing, Jinhua and Hangzhou established water improvement leadership teams, putting in place personnel, technology, materials, and operating expenses.

Virtually all of the funds required for providing running water and improving drinking water sanitation in rural Zhejiang were contributed by commune and brigade collectives and the masses of commune members.

The use of running water in rural villages has reduced the incidence of communicable diseases and improved commune member household environmental sanitation and individual sanitation, improving the physical health of the broad masses of commune members.

9432
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Grain Disease

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TITLE: "Study of Physiological Races of Wheat Leaf Rust Mycorrhizae in Shanxi Province"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 8, 1982 pp 12-14

ABSTRACT: Wheat leaf rust tended to spread in spring and winter wheat planting areas of Shanxi Province; crop failure resulted in certain years. The mycorrhiza can winter and summer in the province so as to complete the yearlong infection cycle. The earlier the fall sowing, the earlier is the outbreak of infection and the more severe for the crop infection. At present, very few wheat varieties have resistance against this leaf rust; therefore, selective breeding of such varieties with resistance to lead rust and high yield is important to plant protection.

After years of study, Yezhong No 1, No 2 and No 3, as well as Leixing No 11 physiological races were identified as the source of infection. The paper describes the bacterial culture and isolation. Inoculations with mycorrhizae were conducted in recent years to obtain relatively good-resistance wheat varieties, such as the Luofulin No 10 and No 13, the Shanqianmai, the Gaojiasuo, and the

[continuation of SHANXI NONGYE KEXUE No 8, 1982 pp 12-14]

Zhongwu; these varieties can be used as resistance parental pairs for selective breeding.

10424
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Grain Experimentation

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TITLE: "A Preliminary Genetic Study on Growth Period in F_1 of Hybrid Rice of O. Sativa Subspecies Keng"

SOURCE: Beijing YICHUAN [HEREDITAS] in Chinese No 4, 1982 pp 5-7

ABSTRACT: Breakthroughs with hybrid Keng subspecies were reached in Liaoning, Beijing, Xinjiang and Yunnan; these subspecies are mostly early-ripening Keng subspecies. The growth periods were markedly shortened to 105-110 days after these subspecies were introduced into southern Zhejiang, from 156 days in Liaoning in the case of the Fengjin/C57 rice variety. The shortened growth period leads to a reduction in the sprouting number of seedlings and small spike types, as well as lack of growth vitality. Therefore, in the south of China the selective breeding of subspecies Keng should first solve the problem of growth period. The paper describes the observation of full spike growth (in days) as well as the relationship between spike sprouting days and number of spikes with and without natural lighting in greenhouse cultivation. Higher hybrid vitality can be obtained by cross breeding of restoration varieties (with the appropriate growth period) with a sterile variety of late- or medium-ripening Keng subspecies

[continuation of YICHUAN No 4, 1982 pp 5-7]

suitable to local cultivation. A certain photosensitivity of the rice variety is required to grow in Zhejiang Province. Included are five figures and one table. The authors express their gratitude to associate professor GAO Mingwei [7559 2494 1414] of Zhejiang Agricultural University for his counsel.

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TITLE: "Effects of Different Genotypes on Induction Frequency in Anther and Scutellum Culture of Maize in Vitro"

SOURCE: Beijing YICHUAN [HEREDITAS] in Chinese No 4, 1982 pp 8-10

ABSTRACT: In recent years, spurred by progress in maize cell and tissue culture, maize improvement has been sought with the cell and tissue manipulation. In 1975, it was reported that the Institute of Botany of the Chinese Academy of Sciences obtained, for the first time, pollen-bearing maize stalks. Later in 1979 and 1980, Chinese researchers began the hybrid breeding of maize from pollen culture. These reports mentioned that the genotypes are related to the induction and induction frequency. The paper reports the preliminary results on maize culture in vitro for inducing the growth of maize stalks from cells. In the low humidity environment of Northwest China, the authors succeeded in transplanting maize stalks with the blending of sand, loam and sawdust after initial failure. Included are three tables and four photographs.

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CSO: 4011/230

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TITLE: "Agroclimatic Classification at the County Level by Use of Meteorological Yield Data"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 7, 1982 pp 11-12

ABSTRACT: The authors processed meteorological yield data by using three methods: natural normalized solution, indistinct grouping analysis, and Euler's distance analysis. The following results were obtained: the first and second characteristic vector distributions by using natural normalized solution, and other results by use of the other analyses. An electronic computer was employed in classifying meteorological yield data; several methods of classification were compared to find a feasible and sound plan. The indistinct grouping analysis and Euler's distance analysis have generally similar outcomes; calculations are simple and analysis is intuitional in the former method, but occasionally grouping may not be attained. In the method of natural normalized solution, the meteorological yield is considered as a kind of time-space distribution field with certain agroclimatic significance and good convergence. Among the characteristic vectors of the main characteristic values, relatively ideal distribution can be selected. In addition, the time components obtained can be used for the classification of high

[continuation of QIXIANG No 7, 1982 pp 11-12]

and low yield years, as well as for agroclimatic analysis and harvest forecasting. However, an electronic computer should be used because the volume of calculation is quite high.

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TITLE: "The Use of Wind Energy as a Driving Force for Irrigation"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 7, 1982 pp 16-17

ABSTRACT: The paper discusses the application of wind energy for the irrigation of paddy field in Jiangsu Province. Three terms are introduced: shart-up wind velocity, cutoff wind velocity and designed wind velocity. The start-up and cutoff wind velocities are, respectively, 3 and 20 meters per second, since the wind wheel will not turn at lower than 3 m/sec and the wheel will be made to stop turning at more than 20 m/sec of wind velocity, to avoid damaging the installation. The main types of wind wheels in the province are from 6 to 7.5 meters in diameter, with a wind utilization index ranging from 0.18 to 0.35. Mathematical formulas are presented to derive data for wind energy, amount of water lifted, and number of mu to be irrigated. One of two tables lists the amount of water lifted and the number of mu irrigated for lifting water 1, 2 and 3 meters in Dafeng County for the early-, medium-, and late-ripening rice varieties. Rainfall is also taken into account in the calculation.

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China Report

AGRICULTURE

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I. GENERAL INFORMATION

CONFERENCES ON AGRICULTURAL ECONOMY HELD

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 7, 1982, pp 47-56

[Article: "Discussion on How Agriculture Can Put Into Effect a Program of 'Taking a Planned Economy as the Key Link With Market Regulation Being Supplementary'; Chinese Agricultural Economics Society Convenes Beijing Region Academic Discussion Meeting"]

[Text] On 20 April and again on 14 May, the Chinese Agricultural Economics Society held two Beijing area academic discussion meetings, which discussed how agriculture can carry into effect a program that "takes a planned economy as the key link with market regulation being supplementary." Excerpted remarks of some comrades at the meeting are published below.

Liang Xiufeng [2733 4423 1496] (Economics Institute, State Statistical Commission): How should more than 30 years of agricultural planning work in China be evaluated? Practice is the sole criterion for judging truth. In a situation of large population relative to available land, we substantially solved the food and clothing problem for 1 billion people. This is a tremendous achievements in China's economic construction, and it is also a tremendous achievement in the development of agriculture. Therefore, in an overall sense, China's agricultural planning work has scored very great achievements. However, it has gone through a tortuous course.

Beneficial experiences in China's agricultural planning have been the following:

1. It has proceeded from China's realities, with emphasis on the analysis and study of conditions for development of agriculture (production relationships. production forces, and the superstructure) to set workable agricultural development goals and speed of development. For example, in formulating the first five year plan, we adopted an attitude of comparatively seeking truth in facts, and after mastering a large amount of data, we diligently summarized and analyzed major pertinent factors and realized that for some time in the future. China's speed of agricultural development could generally be no greater than four or five percent, and that speed of grain development could generally be no more than three or four percent. Third years practice has demonstrated that the results of such an attitude, methods and analysis in studying and planning were appropriate.

2. Conscientious implementation of the guiding mentality of taking agriculture as the foundation and shifting the work of economic departments to the track of taking agriculture as the foundation. On the one hand we arranged

the speed of economic development and the scale of national construction, making sure they corresponded to the ability of agriculture to bear them. On the other hand, in the distribution of manpower, material, and financial resources, we first insured the needs of agricultural development.

3. In order to assure basic agricultural products needed for national economic development, we adopted measures for the implementation of planned procurement (centralized procurement) of major agricultural products, which were supplemented by grain award sales and reward price policies. These both placed specific demands on the development of agriculture and the distribution of agricultural products, placing them on the track of state plan, and by and large assured normal economic life and the basic stability of market prices.

4. Attention to requirements of the laws of value in terms of the economic development situation, with planned appropriate readjustment of purchase prices paid for agricultural products and a gradually reduction in the price "scissors" between industrial and agricultural products to promote agricultural development.

5. Formulation of agricultural plans and organization of the realization of agricultural plans. Attention was given both to agricultural product procurement policies, agricultural procurement price policies, agricultural investment policies, rural loan policies, and agricultural means of production supply policies, and the linking of various kinds of organizational work, technical work, and ideological and political work to assure plan implementation and fulfillment.

The main problems in China's agricultural planning work are as follows:

1. Generally overly high agricultural production quotas. In most years, major tasks for the year have not been fulfilled.

A look at the four big production quotas for grain, cotton, oil-bearing crops and live hogs shows that for more than half the years, annual plan tasks for grain and live hogs were not fulfilled. For cotton and oil-bearing crops, in about three-fourths of the years, annual plan tasks were not fulfilled.

2. Insufficient unified planning with due consideration for all concerned, and comprehensive arrangements in agricultural plans. Principally in the relationships among production, construction, and daily life, and among the country, the collective and commune members, in most years handling was not sufficiently satisfactory. In some years production developed and construction expanded, but peasant living standards did not improve. In some periods state purchase tasks were inequitable and burdens were overly heavy to the serious impairment of peasant enthusiasm for production. In some periods, output of farm products increased, but fulfillment of farm product state purchase plans and allocation plans was poor to the detriment of national economic construction.

3. Equitable use and protection of agricultural resources has been done poorly causing a deterioration in basic conditions for agricultural production and imbalance in the natural ecological environment, which bring in their wake serious consequences for development of agricultural production.

4. In the direction of agricultural development, failure sometimes to give attention to the principle of adaptation of general methods to local situations with excessive and stifling control; at other times a loosening of plan guidance and a tendency toward development of liberalism. The former was a major tendency in the past; the latter is a major tendency now.

The several principles that should be adhered to in future agricultural planning work are as follows:

1. Ours is a socialist country in which development of agriculture must be done under the direction of unified national plans with implementation of a program in which the planned economy is paramount and market regulation supplementary.

2. Specific forms and specific content of agricultural plan management will differ in accordance with different times and different circumstances. China's agricultural production circumstances have determined that adoption of overly concentrated management methods are not suited to agriculture. At the same time, in order to assure both the needs of the people's daily lives and economic stability, it is necessary to institute vigorous plan management over production and procurement of certain major agricultural products.

3. Improvement and strengthening of agricultural product procurement plans, correctly handling relations among the country, the collective and commune members. For major agricultural products in extremely short supply, it is necessary to formulate state purchase quotas that must be fulfilled. Base figures for state purchases may not decline further, and the proportion purchased at negotiated prices cannot increase further. For major agricultural products for which supply is temporarily greater than needs, maximum procurement limits should also be properly set in accordance with actual circumstances. In addition, one must realize that, in an overall sense, agricultural products in China are never enough. One should not, upon seeing a temporary increase, proceed to institute senseless excessive restrictions.

4. In grain production, under no circumstances can there be a slackening of leadership, and is necessary, at the same time, to give attention to development of economic diversification. As regards the problem of how to control the grainfield area, this must be linked to production plans and state procurement quotas.

Zheng Linzhuang [6774 2651 5445] (Beijing Municipal Agricultural Economics Society): Let me give you a briefing on some discussions of the Beijing Municipal Agricultural Economics Academic Discussion Exchange Meeting on the applciation to agriculture of putting into effect a program of "taking a planned economy as the key link with market regulation being supplementary."

1. On the issue of agriculture plan

(1) Though socialist public ownership provides conditions for the possibility of instituting a planned economy, in order to translate the possibility into reality, it is necessary to act on the basis of agricultural production characteristics so that plans are truly established on a scientific foundation. First of all the circumstances have to be understood, and all data pertinent to agricultural production, requirements, transportation and marketing, etc. have to be understood. In order to achieve this goal, not only is it necessary to understand agricultural circumstances per se, but also to understand other economic areas related to agriculture, and even circumstances in the political and social realms. Not only is it necessary to refer to present and past circumstances in formulating plans, but it is also necessary to make scientific forecasts about circumstances that may crop up during the period of time when the plan is in operation, using these as parameters to formulate plans. Secondly, during the period of operation of the plan, it is necessary to make changes in plans that are commensurate with changes in circumstances. Not only in agricultural production plans, but also in plans for procurement of agricultural products, for agricultural loans, for the agricultural means of production, etc., it is necessary to make corresponding changes. Some comrades have noted that for agricultural plans to be scientific, the following work has to be done: There has to be a correct guiding mentality; good zoning of the agricultural economy on the basis of surveys and studies; an overall balance of manpower, financial, and material resources, and of supply, production, and marketing; and good forecasting work.

(2) On the issue of plan quotas. Some comrades suppose that our agricultural economy is a collective economy collectively owned by the laboring peasants, that profits and losses from operations are the responsibility of commune members, and that commune members have the right to distribute their own products. Thus, in carrying out plans, it is necessary to give communes and brigades fairly great self-determination, and plans of a command nature may not be implemented. Some other comrades believe that crops such as grain, oil, and cotton are major products closely related to the national economy for which direct plans of a command nature should be instituted to assure sufficient output to satisfy the needs of economic development and the people's livelihood. For the production and marketing of ordinary crops, indirect plans that are in the nature of guidelines may be instituted. In the institution of plans in the nature of guidelines, numerous comrades noted that general use of an agreement system is a workable method. Some comrades pointed out that with institution of an agreements system stifling regulation and binding producers hand and foot cannot take place.

For example, in the production of varieties, one need only stipulate the amount of a major category (as for example grain); there is no need to specify amounts of each and every variety (such as rice, wheat, corn, gaoliang, etc).

Some comrades said that frequently when growing area quotas were handed down, it was not possible to attain the goal of assured output. Today we can only require of agriculture that it provide required amounts of commodity products; consequently, it is enough to hand down procurement quotas for major commodity products (such as cotton, grain, and edible oil). As to how to fulfill quotas, let production units decide themselves on the basis of their own actual circumstances. Still other comrades pointed out that in a situation in which prices for agricultural products cannot move, and in which economic regulatory methods such as revenues and loans are not complete, if plan goals are to be guaranteed fulfillment, it is certainly necessary to employ controls over growing areas, otherwise plans could come to naught.

(3) On the issue of the planning system. Delegates to the meeting unanimously pointed out that at the outset our agricultural planning system was an imitation of the Soviet model, but that during the past 30 years many important lessons of experience have been learned through practice. It is on the basis of these lessons of experience that reform of the prevailing agricultural planning system must be carried out. Some comrades noted that a look at the experiences of other countries that practice planned economy shows that the general tendency in reform of agricultural planning systems is for the state to liberalize direct control of a command nature in a gradual transition to indirect planning. Reform of China's planning system should also adopt this orientation. This means the gradual liberalization of state interference requiring full use, in accordance with economic laws, of the economic levers of prices, revenues, and loans to regulate the agricultural economy. Thus, reform of the agricultural planning system requires first of all a perfection of state plan regulatory methods. Currently prices, revenues, loans, economic legislation, agreements, and such economic methods in the country's agriculture are still very imperfect. Under these circumstances, we not only have to study what is the best system to adopt under any given condition, but we also have to study the problem of how to make the transition from the original system to the new system.

2. On the issue of market regulation

(1) Comrades attending the meeting affirmed, first of all, that so long as the commodity economy exists during the period of socialism, the relationship among production, laws of value, and currency will still play a role. Therefore, market regulation has to be used to give impetus to the development of the socialist economy.

(2) The central issue in market regulation is how to use prices to effect regulation, which means, in fact, price regulation. The greatest problem in China's use of the method of "market regulation" in agriculture is that the various price proportions have been set very inequitably, and prices have not been readjusted promptly on the basis of changing circumstances.

Bao Yongjiang [0545 3057 3068] (Economics Institute, Tianjin Municipal Academy of Social Sciences): Formerly agricultural planning work was centralized to death. Everyone is familiar with "arbitrary uniformity" and such shortcomings. During the past several years following the gradual enlivening of the rural economy, some problems also cropped up in agricultural planning, principally loss of control. As manifested in production, actual production frequently has had nothing to do with plan arrangements. For example, flue-cured tobacco growing area increased, but production of crops for which costs were high and profits low (particularly the grain growing area) decreased. As manifested in the realm of circulation, production and marketing were frequently out of kilter. Overstocking occurred for products for which markets had small capacity (such as rapeseeds or edible sunflower seeds) while some commodities in extremely short supply (such as eggs, and fish) could not be bought at time. People do not hold identical views on these situations.

Some people supposed that this was the peasant's "liberalization trend," specifically manifested in "great work when profits are great, little work when profits are small, and no work when there is no profit," and that the solution lay in future strengthening of "planned regulation," with "planned regulation" meaning, "You arrange production as I say, and you sell as I say," and there is no other way than this.

We want to ask, just why did loss of control occur during the past several years? I believe there are three reasons:

1. Improper regulatory measures that could not meet the needs of the commodity economy under the two market conditions of development of a diverse ownership structure and two kinds of prices. No matter whether in the collective economy or the privately retained economy, except for the portion for self-sufficiency in consumption, peasant development of production and participation in exchange is done for the purpose of gaining commodity value as a way of making a living and a means of getting wealthy. The various actions we have taken since the Third Plenary Session of the 11th Party Central Committee to enliven the rural economy have been, in fact, a recognition of the necessity of looking after the peasants' economic welfare. Nevertheless, many of our specific policies did not suit these circumstances and were promptly changed. To take hog and egg production in Tianjin, for example, regulations prohibiting or limiting the raising of hogs and chickens were abolished and farmers' markets liberalized, yet in award sales policies for procurement, some of the former regulations on separate treatment of the collective economy and the privately retained economy or even bias against the privately retained economy were still maintained. For example, for evey jin of hen's eggs peasants sold, they were allowed an award sale of 1 jin of grain and payment of 1 yuan, and for every 200 jin hog they sold, they were allowed an award sale of 250 jin of grain. When collectives sold 1 jin of hen's eggs, they got 3 jin of grain and payment of 1.16 yuan, and when they sold a 200 jin hog, they got an award sale of 415 jin of grain plus an 8 yuan subsidy. When state farms sold 1 jin of hen's eggs, the award sale of grain was 4 jin and 1.16 yuan was paid; when they sold a 200 jin hog, the award sale of grain was 790 jin, and they got an additional 8 yuan subsidy. Some articles rebuked rural communes and brigades for not producing and not wanting the produce farm products on which they lost money. I believe we ought to check up on our regulatory functions to find out why regulatory action cannot be taken to solve this problem with losing money?

2. Organizationally, as a result of the separation of departments, mutual wrangling frequently occurs, efficiency in getting things done is low, and ability to regulate is poor. Take the development of households specialized in the raising of livestock, for example. In the spring of 1981, the Tianjin CCP Committee made various specific regulations, yet because of the large numbers of departments involved plus lack of common understanding, many actions were delayed and could not be implemented. The former regulation allowing the borrowing of ripe grain during the time chickens were growing to maturity, the grain being deducted when egg deliveries were subsequently made was revoked (and most recently restored); supplies of young chicks, mixed feeds, and poultry medicines were intermittent, and some places refused to sign marketing agreements with specialized households, and refused to provide grain or money subsidies in accordance with regulations. In consequence, quite a number of specialized households faultered. Thus, when the time came for new chickens to produce eggs (the slack season in egg production), we tried to get them to make deliveries and to sign contracts, but quite a few specialized households refused. They took their eggs to farmers markets and sold them. Who is to blame for this?

3. Imbalances in the production structure, steady deterioration of the farmland ecological system, rising costs in agriculture, increasing investment, and frequently creeping decline in output and earnings. Some published materials blamed communes and brigades for not wanting to invest in the capital construction of their vegetable gardens when the fact was that the area reserved for vegetable growing in Tianjin had been cut back. Survey shows that gross income from Tianjin vegetable fields averages 318.50 yuan per mu, and net income averages 154,000 yuan per mu.[1] Cost of plastic enclosures runs to 1,304.68 yuan per mu and earnings are 1,465 yuan, net earnings being only 160.32 yuan.[2] The additional investment is not matched by additional income. Vegetable output for the city as a whole averaged 5,676 jin per mu in 1957; in 1980, it was 6,503 jin for an increase of only 11.5 percent. This shows that during the past 2 or 3 years, we have not been able to help peasants increase production. Under these circumstances, if the peasants do not want to increase investment in order to develop production on lands reserved for the growing of vegetables, who is to blame?

1. Data provided by Non-staple Food Department, Municipal Agricultural Commission

2. According to a survey done at Third Production Team, Hezhuang Brigade, Shuanggang Commune in the southern suburbs.

How can the principle of taking the planned economy as the key link with market regulation being supplementary be carried into effect? Some comrades simplistically suppose that plant regulation means "listen to me," and that market regulation means "listen to you." By proceeding from this notion, recently a situation of "arbitrary uniformity" that takes no account of peasant interests has again emerged in assigned procurement and assigned livestock raising work. For example, for close-in suburbs having no private plots that normally eat commodity grain, vegetable garden brigade commune members having an average of only one-tenth of vegetable fields were also required by regulations to raise one chicken and assigned a quota of 3 jin of eggs. These brigades had never had assigned procurement quotas in the past, and each household raised an average of three to five chickens, depending mostly on the personal grain rations provided by the province to feed their chickens, using egg production to improve their lives. Now, with the institution of an assigned quota whereby an award sale of 1 jin of grain is made for each jin of eggs sold to the state, this amounts to each household being required to deduct 40 jin from its grain ration annually. The result has been only to make this group of commune members even less willing to raise chickens, and to buy eggs for money or else trade grain coupons on the black market in exchange for eggs to eat, thereby increasing pressure on society's egg supplies. Therefore, to regard planned regulation simplistically can only cause the agricultural economy to regress to a vicious cycle of "death from centralization and chaos from liberalization."

Agricultural planning is a science. Planned economy requires taking account of the fundamental characteristics of the country's agricultural economy. I believe that the principle of taking the planned economy as the key link with market regulation being supplementary must be carried forward on the existing foundation with no regression to the former predicament of "high centralization and low effectiveness." Therefore, realization of planning of the agricultural economy means first of all, science (doing things in accordance with objective natural laws and economic laws); second, concurrent concern (for the interests of the country, collectives, and commune members); and third, support (communes, brigades, and peasants developing production, increasing commodities, and increasing income).

For the moment, for some agricultural and sideline products (such as grain, cotton, and oil-bearing crops) in extremely short supply and that bear on the national economy and the people's livelihood, the handing down of quotas in the nature of commands, and the institution of state requisition procurement centralized procurement, and assigned procurement is entirely necessary. However, one should not regard this as the sole way in which to have a planned economy, much less should one treat it as a set national policy to be ensconced for a long period of time. Looked at in long range terms, quotas that are in the nature of commands, centralized procurement, state requisition procurement, and assigned procurement are not the optimum policies. A desirable method is use of the contracts system and institution of soft planning, by which is meant state control of pre-production and post-production departments, signing agreements with the peasants to provide all around service and for production and marketing, using help to the peasants in increasing output and increasing earnings to put all or a large part of products on the state plan market track. This is also the form that the peasants are most willing to accept. It has five characteristics as follows: (1) plan quotas are made scientific; (2) there are no quotas in the nature of commands; (3) supply, production, and marketing, and manpower, financial and material resources are part of an integrated whole; (4) it increases output and earnings; (5) production and circulation of commodities are handled according to plan on the basis of voluntary peasant participation.

Yu Guoyao [0151 0948 5069] and Li Bingkun [2621 3521 0981], (former Ministry of Agriculture Policy Research Office): A prominent problem in the development of agriculture today is that the growing area for some crops does not conform to state plans. For example earnings from economic crops are currently far higher than earnings for grain crops. The peasants do not want to grow grain, but would rather enlarge the economic crop growing area.

Why has such a situation come about? Some comrades believe it was caused largely by peasant liberalized planting following institution of agricultural production systems of responsibility. We feel the problem should not be regarded in this way. China's economy is a socialist planned economy in nature in which the power to set prices is in the hands of the state, and authority over procurement and marketing of major agricultural and sideline products is also, to an overwhelming extent, in the hands of the state. The peasants simply do not have at hand the necessary conditions for liberalized planting. The fundamental reason for the lack of conformity lies in our planning work not having been complete, and in the not very adept use made of prices and such economic levers, and of legal standards to bring about internal balance within agricultural production. For example, within agricultural products today, no equitable price parities have been set that are capable of maintaining balanced development of agriculture; rather ad hoc action is taken to treat headaches when headaches occur and treat aching feet when aching feet occur. When rapeseed and flue-cured tobacco procurement quantities did not increase, tremendous increases in procurement prices caused net benefits derived from the growing of rapeseed and flue-cured tobacco to soar above net benefits from the growing of other crops, particularly net benefits from the growing of grain. This caused the present situation in which the grain growing area cannot be stabilized and the rapeseed and flue-cured tobacco growing area cannot be controlled.

In light of the foregoing situation, commensurate action has to be taken to strengthen planning guidance so that the entire agricultural economy develops harmoniously in accordance with the objective requirements of the basic socialist economic laws. We believe that strengthening of plan guidance for agricultural development requires efforts in several directions, but that most important is doing a good job of the following two tasks:

First establishing and maintaining fairly equitable internal price parities for agricultural products. Inequitable internal price parities for agricultural products has been a longstanding problem in China's agricultural development, and it is also the major reason for the lack of conformity that has taken place in agricultural development during the past 2 years. In order to maintain harmonious development of China's agricultural production, it is necessary first of all to establish an equitable internal price parity for agricultural products. What is an equitable internal price parity for agricultural goods. Generally speaking, an equitable internal price parity for agricultural products is commensurate with the proportional amount of various among various agricultural products. Yet another indicator that reflects whether or not internal price parities for agricultural products are equitable is whether the overall equivalent amount of labor invested in different agricultural products is able to obtain overall equivalent net earnings. Naturally under circumstances in which a certain agricultural product is in seriously short supply or requires special support, within a given period of time to cause, in a planned way, earnings from production of these products to be higher than from the production of other farm products in order to stimulate production of these farm products in order to achieve balance between supply and demand is also equitable. However, such a state of affairs should not be maintained fixed and unchanged for long. Rather proper readjustments should be made on the basis of the situation in development of various farm products in order to maintain balanced development and standards for agricultural production.

Let us pose a problem here: How is the problem of readjustment of internal price parity for agricultural products to be handled? Nowadays the peasants psychology is fear of change of government policies. I suggest that the authorities concerned might consider use of the method of announcing once each year procurement prices to be paid for agricultural products, i.e., during August or September of each year to announce the procurement prices to be paid during the following year for various agricultural products, making this into a system whereby the state institutes plan guidance for agriculture so as to assure that peasants will have relatively full time in which to think about and make arrangements for the following year's agricultural production. A once annual announcement of procurement prices for agricultural products does not mean a general annual readjustment of procurement prices for all agricultural products, but rather only necessary readjustment of situations where procurement prices for a small number of agricultural products have been overly high or overly low. The extent of annual readjustment should not be overly great either; readjustments should be divided up over a period of several years so as to avoid creating great fluctuations in production of these agricultural products and so as not to create hardships for the peasants in readjusting planting plans. Each readjustment of agricultural product procurement prices should give full concurrent concern to the interests of the state and the peasants, should be done in coordination with overall departments, commercial departments, and agricultural departments.

Second is promotion of the institution of a contract system for procurement of agricultural products. Yet another major reason why China's economic crop growing area has increased abruptly during the past 2 years has been lack of any restraint by legal regulations. The state stipulated only procurement prices for agricultural products; it did not a priori stipulate procurement quantities or certain agricultural products the supply of which might be greater than demand, but rather used economic agreements between peasants and commercial departments to provide for concrete implementation. Consequently, in a situation in which supply was greater than demand for certain agricultural products (such as rapeseeds and flue-cured tobacco), the peasants continued to offer for sale large quantities of these agricultural products. Under these circumstances, commercial departments could only select two roads. One was to suspend or limit procurement causing attendant losses in peasant earnings and a waste of social wealth, plus a loss of peasant confidence and a dampening of peasant enthusiasm for production, or, second, unrestricted procurement resulting in difficulties in processing, storage, and marketing, or increasing burdens on state coffers, plus stimulating blind development of production during the following year of these very same agricultural products. In order to change this state of affairs, while setting equitable internal price parities for agricultural products, it was necessary to promote institution of contract systems for procurement of agricultural products. General institution of contract systems for procurement of agricultural products must become the fundamental way in which the country undertakes future procurement of agricultural products. Agricultural production procurement agreements cannot simply stipulate the kinds and quantities of farm products peasants are to sell to the state; they must also stipulate the substance of what commercial departments are to provide the peasants in the way of means of production and certain materials urgently needed in their daily lives.

We believe that the defining of equitable internal price parities for agricultural products and promotion of the institution of contract systems for procurement of agricultural products are mutually complementary aspects for the realization of planned guidance in development of agriculture, which both employ predominantly economic methods and contain a certain amount of administrative interference, which both helps bring into play peasant initiative and is able to assure state planning. So long as work in these two realms is done well, China's agricultural production will not leave the track of a socialist planned economy.

Wu Shuo [0702 4311] (Supply and Marketing Bureau, Ministry of Commerce):

1. The Present Status, Trends, and Objectives of China's grain problem

The grain problem comprises the problem of food to eat, the problem of the use of grain as a raw material for industry, and the problem of the use of grain as livestock feed.

The problem of food to eat has been substantially solved. In 1980, per capita grain rations averaged 493 jin for the country as a whole, including 504 jin for the agricultural population, and 438 jin for the non-agricultural population. These quantities are sufficient for consumption. In the cities and towns, virtually every family had surplus grain. In rural villages distribution of grain rations was uneven with some peasants not consuming all they got while a small number of peasants were a little short.

In the use of grain as a raw material for industry, needs are being substantially met. In 1980, industry used about 30 billion jin of grain, of which 25 billion jin was used by the food industry (the state supplying more than 22 billion jin).

The problem of grain for use as livestock feed is far from solution. In 1980, verifiable use of grain for livestock feed was between 60 and 70 billion jin. This plus grain produced by private plots and surplus grain rations used for livestock feed produces an estimate of somewhat more than 100 billion jin. In 1980 average per capita output of meat (pork, beef, lamb and goat), eggs, and poultry was only somewhat more than 30 jin and milk was less than 3 jin, supplies unable to meet demand. Extrapolation from representative data showed annual peasant consumption of meat, poultry, and eggs to have been only 19 jin, and consumption by residents of cities and towns was also no more than 48 jin per capita.

The future trend for the non-agricultural population's consumption of grain is toward decline. This trend began to appear in 1978, and 1980 showed an 8.4 percent drop from 1977. Grain ration consumption levels for peasants in places in which peasants were already eating well also showed a trend toward stability or gradual reduction. In places with low grain rations, the trend has been toward increase. In short, the trends are for no future continued large increases in grains used as staples, but rather, over the short run, consumption will either remain stable or increase only slightly. With the rise in economic income and increase in non-staple foods, the trend will be toward steady decline. The trend is toward increase in requirements for food in which grains are the major raw materials, particularly in rural villages. Because of limitations on the level of purchasing power, over the short term in cities basically about half of employee households having above medium incomes will be able to increase the quantity of food they consume. The trend for use of grain in livestock feeds is toward year after year increase. It can be predicted that the livestock feed industry will become a rising industry.

Just how much grain will have to be produced in order to be able to assure society's grain needs? Two criteria may be hypothesized to make calculations as follows: One is the amount of grain required in a planned diet; the second is the quantity of grain required during a set period of time.

Calculations on the basis of the first criterion show that if the average per capita amount were 736 jin, the objective could be attained. If, in addition, consumption of meat, eggs, poultry, and milk were to increase, there would be a corresponding increase in the amount of grain available for use in livestock feed.

Calculations on the basis of the second criterion: A look at changes in grain requirements for many years shows an annual increase of somewhat more than 10 billion jin in the total amount of grain produced is sufficient only to maintain existing consumption levels. With an annual increase of about 20 billion jin, slight improvement could be made. With an annual increase of about 30 million jin, life would be rather pleasant.

2. Development of production has to be accompanied by working along several lines at the same time for equitable distribution and economizing use.

Equitable distribution of grain, particularly of commodity grain, requires correct handling of the relationship between the state and the peasants as well as the various relationships within the country. For a considerable period of time in the past, the contest over amounts has been very prominent with the state wanting to buy a little more and the peasants wanting to keep a little more. During the past several years the conflict over amounts has basically changed into price conflicts. In a situation in which a "scissors" still exists between prices for industrial and agricultural products with the price parity for agricultural goods being inequitable, the peasants want to make a little more money from their sales of grain, and thus the price conflict is pronounced.

Right now the most important problem in equitable distribution of commodity grain is good handling of the economic relationships among all parties within the country. Following institution of a system of assumption of sole responsibility in public finance, if the economic interests of all parties are not well coordinated, equitable distribution of commodity grain will be affected. Major ways in which distribution of commodity grain can be inequitable are as follows: (1) Output of a certain grain increases and state procurement increases; consumers demand improvement in the consumption situation, but increased grain consumption will require increases in marketing price subsidies. In a situation in which the more marketed the more the loss and the less marketed the less the loss, the marketing areas have no enthusiasm for increasing the amount of supply, artificially creating a relative surplus production of a certain kind of grain for a certain time in a certain place. (2) Quantity of rural grain sold amounts to 53 or 54 billion jin or 45 percent of state procurement and excess procurement figures, exceeding the real quantity of grain deficit, a false amount of demand occurring estimated at between several billion to more than 10 billion jin. (3) Areas into which grain has to be transported want more brought in, and areas from which grain is sent want to send out less, the shortfull becoming the problem of the central government. (4) Some places not suited to the growing of grain but suited to the growing of economic crops have no choice, if they are to receive a grain ration, but to restrict development of economic crops. On the other hand, some places suited to the growing of grain have no choice but to restrict peasant growing of low yield economic crops so they can supply raw materials for local light and textile industries. (5) In some grain producing areas, particularly newly developed areas in which grain production is concentrated, repeatedly experience "difficulties in harvesting grain," and "difficulties in selling grain."

Reasons producing these phenomena are principally no organization of commodity flow by economic areas, which causes a certain segmentation and blocking of flow channels in centralized socialist markets. The inversion of procurement and sale prices of grain deepens this state of affairs. The way to solve it is: (1) gradually solve the price inversion problem. (2) organization of commodity grain flow on the basis of economic regions, beginning first with grain purchased at negotiated prices.

Economizing grain entails mostly the most economic and most scientific use of grain. (1) The utilization value, particularly the nutrient content of various grains, has to be used to the full to attain best economic results and so that everything is used to the full. (2) Where conditions permit, a gradual change should be made in the habit of eating rice, beans replacing come of the rice.

(3) Gradual change in the use of pork as the principal meat diet using the hog feed thus saved to raise chickens for a great increase in the amount of meat from the same quantity of feed. (4) Development of the livestock feed industry and encouraging scientific feeding methods for earliest possible development of the livestock feeding industry.

Wang Fenglin [3769 7685 2651] (Agriculture Economic Institute, Chinese Academy of Social Sciences): Nowadays everybody unanimously agrees that agriculture too must practice a program of taking the planned economy as the key link with market regulation being supplementary. However, divergent views exist as to whether or not the state should hand down to the people's commune collective economy plans of a command nature. Some comrades believe the state cannot hand down plans in the nature of commands to rural communes and brigades, the reasons being that rural communes and brigades are the collective economy with independent accounting and responsibility for their own profits and losses, which differs from the economy owned by all the people; in the classic of Marx, Engels, Lenin, and Stalin there is no discussion of handing down plans in the nature of commands to the collective economy; China's recently published constitution (draft) talks only about the collective economy accepting state plan guidance. Still other comrades suppose that the country can and should hand down to rural communes and brigades some plans in the nature of commands, the reasons being that China's rural communes and brigades are a form of a socialist publicly owned economy possessing only relative independence; and are not an entirely independent enterprise. Since the state assumes definite responsibilities for them, the state has the right to hand down some plans that are in the nature of commands; a basic indicator of a so-called planned economy is plans in the nature of commands; an economy without definite plans in the nature of commands cannot be said to be a planned economy. These comrades also reason that certain major agricultural products are currently insufficient, so in order to satisfy the needs of urban and rural people and assure the planned proportional development of the national economy, some plans in the nature of commands have to be handed down.

I believe that in theory the state should not hand down plans in the nature of commands to rural communes and brigades; however, in proceeding from current Chinese realities, in order to assure the needs of all quarters for major agricultural and sideline products, the state may hand down some plans in the nature of directives, and rural communes and brigades must assure their fulfillment. However, such plan norms should be used as little as possible, and as productivity develops with agricultural products becoming increasingly abundant, this kind of plan should be gradually abolished. This is exactly like the "price scissors" that currently exists between industrial and agricultural products, which though not entirely equitable is something that we cannot abolish nevertheless, but rather can gradually reduce and finally eliminate as productivity develops.

As to how to guarantee fulfillment of this portion of plan norms in the nature of commands, I believe attention must be given three points: (1) A good job of investigation and study to formulate scientific and farsighted plans making them accord with the objective economic laws of planned proportional development, correctly handling the interests of the country, the collective, and individuals. Herein lies the authoritativeness of plans. (2) Adept application of economic levers (in which prices must be particularly equitable) and necessary administrative measures. (3) When conflicts exist between state plan norms in the nature of commands and plans reported to higher authority by communes and brigades, repeated discussions should take place, the views of whoever is right being carried out, and not simply doing things. If in the end conflict still exists, indoctrination should be given to convince communes and brigades of the importance of the overall situation, that the national interest is also the peasants' longterm interests, and that state plans must be resolutely followed. Otherwise, one cannot call these plans in the nature of commands.

Yu Jiabao [0205 1367 1407] and Liu Delun [0491 1795 0243] (Agricultural Economics Department, Beijing Agricultural University. We understand the fundamental meaning of the so-called rural collectively owned economy taking the planned economy as the key link with market regulation being supplementary to be the following: Under conditions of public ownership, the socialist economy has as its objective the use of production to satisfy the needs of the people, and a planned economy in which exchange is conducted in the form of commodities. This formulation reflects the need for all sectors involved in socialist production to carry out planned development to meet the needs of the people, with there being no blind production and a state of anarchy being allowed to exist. However, during the stage of socialism, it is impossible to make every bit of production part of state plan. For production outside of plan, it is necessary to permit enterprises to organize production on the basis of market changes. In collectively owned agriculture, practice of a program of taking the planned economy as the key link with market regulation being supplementary is an objective requirement for the development of agricultural production, and it is also wherein the fundamental collective economic interest lies. This is because of the following:

1. The collectively owned economy is a form of the socialist publicly owned economy. The existence and development of any collective economy has as its prerequisite the existence and development of the publicly owned economy of the entire society. Increase in a collective economy's levels of production and levels of income depends on a rise in the production levels and income levels of the entire society. The fundamental interests of collectively own economic organizations is one and the same as the interests of the entire society.

2. People's needs are limited by the level of development of productivity. Under certain socio-economic conditions, there is a consumption structure and a demand structure. The production structure determines people's demand structure, and the production structure also changes as the demand structure changes. If the production structure does not correspond to the demand structure, either a shortage or an overstocking of products will occur, and this is a reflection of the contradiction between the demand structure and the production structure. In real life, a lack of congruence between the production structure and the demand structure is unavoidable. There are only

two ways in which to resolve this contraction. One is through the laws of value, spontaneously inducing changes in the production structure in the direction of the demand structure. This will cause price fluctuations. The second way is to carry out planned regulation on the basis of requirements of the demand structure and forecasts of people's demands on the demand structure so as to avoid blind development of production that causes waste.

3. The goal of collective economy production value also requires that utilization value of production by the collective economy be consistent with society's requirements; otherwise if the utilization value of production is not needed by society, its value cannot be realized. But how can a small collective unit know the needs of the people? One way is to obtain information from markets. Another way is to understand the needs of the people from state plans. However, state plans cannot thoroughly understand the advantages each enterprise enjoys or know the specific needs for every individual agricultural product. Therefore, allowing enterprises to take the initiative in satisfying people's needs for products on the bases of information about market changes is entirely necessary.

Bi Baode [3968 1405 1795] (Agricultural Economic Department, Chinese People's University). My incompletely formed views on solving the loss of control situation that now exists in agricultural production are as follows.

This February and March we made a survey in Sichuan and Hubei provinces. We had a sense that agricultural production has really developed fairly fast during the past several years. However, at the same time a certain loss of control has also really taken place from agricultural production to the flow of agricultural products.

A look at Sichuan Province shows rapeseed production to have developed very rapidly in recent years. The growing area cannot be controlled and quantities procured by the state have increased drastically and cannot be consumed within the province. Moved outside the province, no one wants them either, so there is large overstocking in warehouses. In 1978 Sichuan Province grew 88,000 mu of rapeseed and by 1981 this had increased to 200,000 mu, a 127 percent increase. Meanwhile, year after year cotton production did not fulfill plan.

A look at Hubei Province shows that it is mostly the tobacco and hemp growing areas that cannot be controlled, and that the area planted to grain has declined. In 1979 Hubei Province planted 312,000 mu of flue-cured tobacco. By 1981, the area had increased to 439,000 mu, a 40.6 percent increase. In 1978, the area planted to various kinds of hemp in the province was 300,000 mu. By 1981, this had been expanded to 360,000 mu, a 20 percent increase. Meanwhile, the area sown to grain in the province dropped from 83 million mu in 1978 to 77 million mu, a 7.2 percent decline.

Procurement prices for agricultural prices cannot be controlled either. As a result of the lower and lower base procurement figures during the past several years, and the higher and higher ratio of procurement at increased prices and negotiated prices, plus various subsidies, returns of profits, and award sales on top of prices, the actual average procurement price paid for farm products is much higher than the state list price (plan price). Calculations done in Jianyang County in Sichuan Province show that in 1981 for the county as a whole the actual average procurement price paid for grain was 19 percent higher than the state list price, and 47 percent higher in the case of rapeseed.

In short, for those products the production of which should increase, no increase occurs while for those products production of which should decrease, no decrease takes place. Products that should be procured cannot be procured, while no further procurement is possible of goods that sell slowly or that are already overstocked. Average prices paid for procurement are actually far higher than planned prices, and the burden on the national treasury becomes increasingly heavy.

How should these losses of control be regarded? I believe that the loss of control in the agricultural production and flow area has resulted from the failure of agricultural plan guidance and management work to keep apace of the changed situation, and from the inappropriateness of certain measures.

In future, just how can a program of taking the planned economy as the key link and market regulation as supplementary be maintained in agriculture? Our initial thoughts are as follows:

First is continued restructuring of the agricultural planning system for a gradual transition to planning of quantities of commodities. Practice in agricultural planning work during more than 30 years in China has shown that it is planning of quantities of agricultural commodities that plays a genuine guiding role. This is because at the present time about 70 percent of all the country's farm products are for self-sufficiency. There is neither any need nor any possibility of making this entire portion of farm products a part of plan with plan guidance being given by the state. In order to assure that the country has the farm products it needs, while handing down plans for quantities of agricultural commodities, we can now also hand down the areas to be sown to grain and major industrial raw material crops and output control norms. However, we should gradually make a transition to full commodity quantity planning.

Second, the emphasis of future agricultural planning work should be on long-range planning. We should devote great efforts to doing a good job of agricultural zoning to solve longrange strategic problems in the development of agriculture, to readjust the structure of agricultural production and crop patterns, to do a good job of building agricultural commodity bases, etc. Annual plans should emphasize policies and actions.

Third, the laws of value have to be honored and full use made of the regulatory role of economic levers. The task at the moment is to make fairly equitable the internal price parities for farm products so that roughly equivalent benefits are derived from the growing of various kinds of crops.

Fourth is the need to promote widely the economic agreements system.

Fifth is institution of needed administrative and legal measures to assure realization of state plans.

Lu Wen [4151 2429] (Chinese Rural Development Research Center)

1. Planned economy and market regulation are the unity of contradictions.

One of the fundamental characteristics of a socialist economy is the planned economy. Agriculture is the foundation of the national economy, and it is closely related to industry; therefore, it is necessary to practice a planned economy. However, since the country's level of development of rural productivity is not high, and because our plans are not sufficiently complete, it is necessary to use market regulation to assist and complement it. Many people have testified to this. However, as to what is meant by a planned economy, what is meant by market regulation, and the relationship between the two has different explanations.

My understanding is that planned economy means consciously and in accordance with social production's objective necessary proportions to run an economic system of production and flow. This is an embodiment of the laws of planned proportional development in social production and flow. It forms a unity with the laws of value. In terms of the original meaning of the laws of value, it has some unity with planned economy. State plans have to be able to reflect the needs of planned proportional development of all sectors of the national economy; they have to try to readjust the proportion of all kinds of production, and they have to establish an equitable production structure, meaning that they must take into consideration the labor, expenditures, and benefits in all kinds of production, and meaning that their relationship between value and price has to be watched, with conscious application of the laws of value to formulate plans. Where plan and realities are out of synchronization, one should not revise plan on the basis of realities, but rather one should use the laws of value and the role of market regulation to provide the necessary administrative action to attain plan objectives.

The marketplace is the territory in which one commodity is exchanged for another. Aside from the portion they consume themselves, the various products our rural villages produce are exchanged through the buying and selling of commodities. In the flow of our commodities, it is also the planned economy that is dominant. In a certain sense, in accordance with the laws of planned development, the state consciously applied the laws of value and exercises regulation through markets. If there is planned readjustment of prices, added price paid for excess procurement, negotiated price procurement, award sales, etc., which affect production and flow, this is also a kind of market regulation, but generally these are included within plan regulation. Outside of state plan, the operation of market supply and demand and the laws of value in the regulation of production and flow is only a part of market regulation. When we ordinarily speak of market control, it is this portion that is meant.

From this may be seen that in our present economy, plans and the market, plan regulation and market regulation possess a unity and are mutually intertwined.

Naturally, there are also contradictions between the two, and this contradiction is the anarchic state formed by plan arrangements and the spontaneous functioning of the market. This means that the anarchic state of the market interferes with and assaults the planned economy making it difficult to carry out plans smoothly. A fairly good way in which to solve this contradiction is to formulate equitable plans on the basis of the unity of the two and to use economic methods to carry out readjustments on the basis of economic laws in order to achieve plan objectives. However, in the present economic state of public finances and a situation of lack of thoroughness in planning work, plus no complete reliance on economic methods to solve problems, administrative measures must also be taken at the same time, measures such as centralized procurement, assigned procurement, planned supply, and strengthening of market management, etc.

2. How can a program of taking the planned economy as the key link and market regulation as supplementary be carried out?

The entire national economy has to institute a program of taking the planned economy as the key link market regulation being supplementary. However, because of some characteristics of agriculture and rural villages, comprehensive and thorough planning is inachievable in the agricultural economy, and reliance solely on administrative measures will not work either. It is necessary to have planned aid from economic measures to use the regulatory role of markets plus necessary administrative methods in order to be able to meet plan requirements.

Looked at from a longrange standpoint, in order to institute a program in agriculture and in rural villages of taking planned economy as the key link with market regulation being supplementary, it is necessary to solve the following several basic problems:

First it is necessary to improve our planning work so that, to the maximum extent possible, plans reflect the requirements of objective economic laws.

Second, we must restructure our price system, establishing an equitable price system founded on value so that prices meet plan needs.

Third is satisfactory solution to problems existing in level by level management. Level by level management cannot be converted into ownership by a department or ownership by a place. Portions that should be under centralized state control should be centralized by the state.

Fourth is the need to use systematic scientific thinking and methods to guide agriculture and all kinds of production, giving attention to each and every link before production begins, while production is in progress, and after production is finished, watching various relationships ahead and behind, to the left and to the right.

During the short term, I believe it is necessary to do a good job of the following several tasks: (1) Combine perfection of rural grassroots organizational work, improvement of production responsibility systems, and doing a good job of contract agreements work. (2) A good job of readjusting agricultural product base procurement figures and proportions. (3) Proper readjustment of inequitable farm product prices. (4) Intensification of ideological work and administrative management. However, one should not use administrative actions as a principal method.

Chinese Agricultural Economics Society director, Comrade Cai Ziwei [5591 1311 0251] said: It is very necessary for use to explore both theoretically and practically how to carry out a program of "taking the planned economy as the key link with market regulation being supplementary." How to put into effect the taking of the planned economy as the key link following institution of production responsibility systems in agriculture is a very important question. Agricultural production has had sustained development during the past several years, but national subsidies from public funds have become more and more numerous, and how to solve this contradiction requires penetrating study. It is necessary to go into rural villages to investigate and study to find means of solving this problem.

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MINISTRY OFFICIAL ANSWERS QUESTIONS ON AUTUMN HARVEST

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 7, 1982, pp 2-3

[Article: "Use of Every Available Means to Win Summer Autumn Harvest. Responsible Person in Ministry of Agriculture, Animal Husbandry and Fishery Replies Correspondent's Questions"]

[Text] What is the agricultural production system for the first half of this year, and what further exertions can be made to win a bumper autumn harvest? This is a question about which people are universally concerned. Recently, a responsible person in the Ministry of Agriculture, Animal Husbandry, and Fishery answered questions posed by the correspondent.

Question: What is the agricultural production situation for the first half of this year and is there need to give special emphasis to the winning of a bumper autumn harvest?

Answer: During the first half of the year, as a result of the efforts of the hundreds of millions of peasants, the damage caused agricultural production by serious natural disasters including low temperatures, drought, and hot dry winds was reduced, and a fairly good summer grain and oil-bearing crop will be harvested. Except for some provinces, municipalities and regions in North China, which sustained a decline in summer grain output, most of South China harvested bumper crops, and it is predicted that total output for the country as a whole will be close to last year's level. Rapeseed output, which has increased for 3 consecutive years, increased by another 4 million dan over last year. Throughout the country spring sowing was completed fairly well. In North China crops harvested in autumn grew well, and in South China paddy rice grew better than in previous years. Growth of economic crops such as cotton was also rather good. Commune and brigade enterprises continued to move forward, and new growth also occurred in forestry, animal husbandry, sideline occupations, and fisheries, output of meat, poultry, milk, and eggs increasing substantially from the same period last year. The entire agricultural production situation continues to develop in a favorable direction.

Now the summer solstice has passed and the crucial time has arrived for growth of autumn crops. The pressing matter of the moment is further mobilization, greater exertions, and the adoption of energetic measures to win a bumper autumn harvest in fulfillment of this year's increased production quotas. It is autumn that is most important for agricultural production in China, both the autumn grain area and output amounting to two-thirds the total for the year. Most economic crops are also harvested in autumn. Not only will the autumn harvest have an extremely great bearing on fulfillment of quotas for the year as a whole, but it will directly affect improvement of the people's livelihood and readjustment of the national economy. During the past more than 10 years the country's grain output has developed rapidly and fairly steadily with average annual incremental increases of 5.7 percent. For fall grain, the average annual incremental increases has been 2.1 percent, the low but steady increase in fall grain output adversely affecting the speed of agricultural development. This year planned gross output requirement amounting to 667 billion jin, a more than 17 billion jin increase over last year. Inasmuch as summer grain production was not all that had been hoped, the autumn grain production quota has been made heavier. In most parts of North China the drought situation continues serious; some autumn crops have been hurt and are not growing well. Consequently a good job of autumn production is extremely important. It has to be realized that many favorable conditions exist for doing a good job of autumn production, and that the potential is very great. In 1970, 1973, and 1979, bumper autumn grain harvests were brought in for an annual increase of 30 to 40 billion jin or more. Therefore, with resolute establishment of confidence and determination in winning a bumper harvest for the year as a whole, attention given crucial measures, and every link in production gripped tightly and completely, it will certainly be possible to win the initiative, assure a bumper autumn harvest, and fulfill increased output quotas.

Question: In order to increase autumn production, what problems in the guiding mentality require solution?

Answer: In order to make autumn production rise, the guiding mentality must fully realize and accurately implement a program of "positively no slackening of grain production while actively developing economic diversification." During the past several years, a readjustment of the structure of agriculture has been carried out. For the country as a whole, today crop patterns tend to be equitable. During the past 3 years the grain growing area has been reduced by about 100 million mu, and the economic crop growing area has been expanded for development of economic diversification. The readjustment of agriculture has been well done and has been successful. In order to insure steady growth in grain, the grain growing area must be stabilized with no further reductions. However, a look at this year's circumstances shows a trend for continued decrease in the grain growing area, which should arouse plenty of serious attention. Grain affects the national economy and people's livelihoods; it bears on issue of 1 billion people having food to eat, and it is also the foundation for all around development of farming, forestry, animal husbandry, sideline occupations, and fisheries. It is necessary at all times to place grain production in an important position and conscientiously arrange grain production in accordance with the principle of taking the planned economy as the key link with market regulation being supplementary. In areas in which summer grain production dropped, in particular, it is all the more necessary to exert great efforts and give prominence to taking a firm grip on autumn grain crops. South China must take a firm grip on late rice crop plowing preparations, do everything possible to grow a little more, and strive to increase yields per unit of area so that late rice output will make new breakthroughs. In addition, it is also necessary to give diligent care to various economic crops to sustain increases.

Question: In order to make autumn production rise, what key measures should be given attention?

Answer: Agricultural production is strongly regional and strongly seasonal. It has to be done by adapting general methods to specific places and specific crops, by devoting attention to several key measures, and by solving, in a pertinent way, problems existing in production. Because of the protracted drought in North China, there are serious gaps between plants in the crops to be harvested in the fall; plants are small and weak; growth is slow; and the spring sowing on more than 10 million mu had to be delayed until summer. Consequently, it is necessary to take firm grip on the two major links of early care and intensive care, to do much hoeing and much weeding and loosening of the soil, fertilizing sensibly, using fertilizer scientifically, making full use of effective high temperatures and fertilizer and water conditions, promoting early development and fast growth, nurturing sturdy seedlings, and reducing damage from low temperatures or early frost following the growing season to win high yields. In addition to taking good care of the early and intermediate rice in South China, strict attention has to be given the double crop late rice. For the country as a whole, the early and late rice growing area is more or less the same, but yields per unit of area from the late rice crop are low, total output being between 20 and 30 billion jin less than for the early crop. The main reasons for the low late rice output are a shortage of fertilizer, late transplanting, or numerous disasters. Experiences have to be diligently summarized for on time early transplanting and fertilization to advance safe full heading and to avoid or reduce damage from the cold dew winds as well as to prevent and control diseases and insect pests, using every available means to increase late rice yields per unit of area.

It is during the autumn crop growing season that various natural disasters occur most frequently; therefore, one must be prepared to combat disasters to win a bumper harvest. There can be positively no hoping for or trusting to the favors of Mother Nature. The drought, high winds, low temperatures, and in some areas the floods, waterlogging, and snowstorms during the first half of this year caused great losses for agricultural production in many places.

Weather forecasts also call for quite a few disasters during the last half of the year. Between May and August, continuous drought may occur in North China with flooding and waterlogging occurring in areas of the Huang He and Chang Jiang. In South China and most of the southwest, precipitation is likely to be heavy, and in the northeast, temperatures may tend to be low, all of which requires good preparatory work to prevent and combat disasters. The farmland capital construction work that has been done for many years has been tested in combat against disasters and has played a tremendous role. However, China's ability to withstand disasters is still not very strong, and many places have not fully gotten away from relying on heaven to provide food to eat. Preparations must be made mentally and through measures to achieve unflagging efforts, to avert peril through preparation, and to reduce disaster damage to the minimum.

A bumper harvest in autumn requires cooperation among agriculture, industry, and commerce. Agriculture departments need to conscientiously change their work styles, enhance investigation and study, promptly understand new circumstances and new problems, exchange information with all sectors, and gain the support of all trades and industries for agriculture. For the funds, materials, and particularly the fuel, electric power, and other materials needed for disaster rescue, all jurisdictions should make prompt arrangements and ready supplies in order to assure needs for development of agricultural production.

Question: The key to winning a bumper autumn harvest in agriculture lies in strengthening leadership. What work should now be taken in hand?

Answer: Party and government leadership are the basic guarantee of winning a bumper autumn harvest. First of all it is necessary accurately to carry into effect the party's programs and policies. Right now most important is continued perfection of production responsibility systems, and accurate handling of the relationship between "centralization and contracting," production teams, centralizing whatever can be best managed centrally and resolutely contracting to commune members whatever can best be contracted by commune members for full arousal of the enthusiasm of the masses to bring into play the superiority of the collective economy. It is necessary, in addition, to reorganize grassroots level leadership teams. Following institution of production responsibility systems, the load on cadres has become heavier rather than lighter, so there positively can be no throwing up one's hands and not caring. Second is the need to arouse mentalities, making full use of all forms of major efforts to shape public opinion to improve the understanding of the broad masses of cadres and people about the major importance of giving attention to autumn production, directing their attention promptly to doing a good job of autumn production and to suggesting ways and means of winning a bumper autumn harvest. Third, leaders of all levels have to further change their work styles, go down to the grass roots, investigate and study, and give particular attention to discovering new circumstances, studying new problems, summarizing new experiences, and helping with solutions to problems existing in production. Only if the foregoing tasks are taken firmly in hand and various measures for increasing output translated into reality can a bumper autumn harvest be assured.

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EXPECTED TREND OF DOUBLE CONTRACT RESPONSIBILITY SYSTEMS EXAMINED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 7, 1982 pp 24-26

[Article by Zhang Guangyou [1728 1684 0645]: "Exploration of Trend of Development of "Double Contract" Responsibility System"]

[Text] Since the Third Plenary Session of the 11th Party Central Committee, rural villages everywhere throughout the county have established and perfected various forms of production responsibility systems that have fully aroused the enthusiasm of the broad masses of peasants to generate a flourishing and heartening situation in the country's agricultural production. As a result of several years of repeated experiences, today the "double contract" form (contracting fixed output quotas to households and contracting work tasks to households) has come to be selected as the production responsibility system that holds a leading position in the country's rural villages; it is the major form of all the responsibility systems. According to incomplete statistics, the "double contract" form of responsibility system is used in more than 70 percent of places throughout the country. This includes places like Guizhou, Gansu, Ningxia and Hunan, where it is used 90 percent of the time, and places like Anhui, Nei Monggol, Fujian, and Jiangxi where it is used more than 80 percent of the time. Among the "double contract" responsibility systems, mostly it is the "contracting of work tasks to individual households" that is used most frequently, and today the trend of development is some provinces and regions is toward use of this form of responsibility system. Consequently, what the trend of future development of this sort of responsibility system will be has become an extremely important question of general concern. I would like to discuss some of my own views on this issue.

Need to Make Clear the Nature of "Double Contract"

In making clear "double contract" particularly the future trend of development of the contracting of work tasks to individual households, it is necessary, first of all, to clarify a premise, namely the nature of "double contracts." A look at realities in some places shows that during the past 3 years, discussion of this issue has been extremely heated, and that serious divergences continue to exist right up the present time. For this reason there are clear differences in attitude about handling "double contracts." After the CCP Central Committee forwarded "Minutes of the National Rural Work Conference" this year, the mental perceptions of an overwhelming majority of cadres and the masses became fairly unified. Everyone realized that "double contracting" is not an issue of orientation or line, but that it fits in rather well with realities in most parts of the country and is a form of responsibility system that has been heartily welcomed by the broad masses of peasants. As Comrade Hu Yaobang said during October last year when greeting delegates to the national rural work conference: "Our policies have not shaken the collective economy; land, the most fundamental means of production, is still collectively owned. Contracting in itself causes no change in the nature of the collective ownership system. 'Dividing the fields' is a customary way in which peasants speak, but to say that the contracting of production to households is 'dividing the fields to work them alone' is inaccurate."

A large quantity of facts fully demonstrates that "double contracting" is not 'dividing the fields to work them alone', nor is it individual economy, and much less is it the same thing as the small agricultural economy of the period before Liberation. However, an extremely small number of people even today do not recognize the contracting of work tasks to individual households to be a kind of responsibility system. Or else they acknowledge it in words, but in their thinking they have completely failed to resolve, or they have not completely resolved, the problem. One thing they say is that "'double contracting' causes a separation of land ownership rights and land utilization rights, and that ownership rights do not play a decisive role. Consequently, 'double contracting' is actually working alone." Such a statement obviously does not fit the facts. Among production relationships, it is the ownership of the means of production that plays a decisive role and this is true in any society. In fuedal society, ownership of the land is by landlord, and renting it to peastants to farm means utilization rights by the peasants. Can one say that the ownership rights do not play a decisive role? Though our society differes fundamentally from feudal society, nevertheless, utilization rights are still not ownership rights. Production teams may likewise exercise land ownership rights. They may, if needs require, announce that land is to be taken back or readjusted for production, and user would have no rights in disposal of the land. Not matter whether work tasks are contracted to individual households or whether production is contracted to households, the land still is owned by the collective and it is not privately owned. Some people say; "Public ownership of the land is in no way able to decide the nature of "double contracts." Some capitalist countries also practice state ownership of land, but can one say they are socialist in nature?" Those who hold such views have forgotten a fundamental premise, namely that the nature of our country is that of a dictatorship of the proletariat. They have forgotten that the problems we study are problems of socialist China under leadership of the Communist Party. A large number of the masses believe that some cadres, particularly some leading cadres, do not thoroughly investigate and study and do not actively lead the masses in solving some of the problems encountered in going forward, but rather that they work hard at throwing cold water, or are unwilling to take various actions, and that they oppose or boycott the "double contracts" responsibility system. Some people handle "double contracting" first by opposing it or not permitting its practice, and later by throwing up their hands and having nothing to do with it in an abandonment of leadership. When they see a problem occur, they gloatingly scream and shout, attack one point to the neglect of all others or even seize on this to negate the "double contracts" responsibility system. This has been a great obstacle for many years in the process of promoting agricultural production responsibility systems.

In the implementation of any form of a responsibility system it is impossible to avoid this or that problem, and "double contracting" is no exception. For various reasons, some problems have arisen in carrying out "double contracts" in some places. Such problems included disputes over water or oxen, the division of the land into overly small plots, failure to use machinery fully, improper protection of collective property, or no provisions for the four dependents households [sic] or the households enjoying the five guarantees [childless and inform old persons guarantee food, clothing, medical care, housing, and burial expenses by the people's communes], etc. These problems had to be given serious attention, and they had to be solved. Not to look at problems from this angle would be wrong. However, principal and secondary aspects had to be distinguished too, and seeing that "double contracts" had fully aroused the enthusiasm for production of the broad masses of people was the most important aspect. Moreover, it was also necessary to realize that the aforestated problems were by no means problems of the "double contracts" responsibility system per se, but were work problems. With a strengthening of leadership, the aforestated work problems could be avoided or overcome. For precisely this reason, in the establishment and perfection of agricultural production responsibility systems, a unified ideational understanding and improvement and strengthening of leadership is extremely necessary. We have to realize that the "double contracts" responsibility system has vitality and has been enthusiastically supported by the broad masses of peasants. So long as the broad masses have enthusiasm, there is no hardship or difficulty that cannot be solved.

No Need to Divide Forms of Responsibility Systems Into High Grade and Low Grade

The contract responsibility systems linking calculation of compensation to output that are currently being practiced in rural villages everywhere are of many different forms, and the ways in which they operate are not entirely the same either. In some cases production is contracted to individual households; in other cases work tasks are contracted to individual households; in still other cases output quotas are assigned individual ablebodied laborers; and in yet other cases output quotas are assigned to teams. Sometimes there is specialized contracting, and sometimes several forms are used at the same time or interchanged. This is the normal situation. However, some people have divided responsibility systems into "high grade" and "low grade." They say that the contracting of work tasks to individual households is the "lowest grade," and they advocate "leading" "double contracts" to the contracting of production to individual able-bodies laborers... Thus they take a discriminatory attitude toward the contracting of work tasks.

Are there really distinctions between high grade and low grade in the forms of responsibility systems? I believe that there is no distinction between high grade and low grade in responsibility systems per se. To divide responsibility systems into high grade and low grade not only does not fit in with objective facts, but such a division may easily produce bad results or side effects in actual work. If one were to make distinctions of "high grade" and "low grade" in responsibility systems, that would depend on whether a certain form of responsibility system suited a given area or not. Only it if suited the area, was able to advance development of production, and was supported by an overwhelming majority of people could this form of responsibility system be said to be a high grade one in this particular area. Conversely, no matter the number of people who believed another form of responsibility system to be "high grade," it if did not fit this particular area, did not help development of production, and was disapproved by most people, then that form of responsibility system would also be low grade. As some people in rural He'nan said: "Whether the form is good or not, one's belly keeps a record; and whether the form is high or low, increases in yields bear testimony." Whether they are good or bade depends on whether or not the masses support them and whether they can fully stir the enthusiasm of the masses. No matter how "wonderful" the form, without the enthusiasm of the masses, all is empty talk.

But just how can one determine which form of responsibility system to adopt. In a nutshell, there are two ways. One is to proceed from realities, and to adapt general methods to local situations. Whatever form suits is the one that should be adopted. Second is to genuinely turn over to the peasant masses the power to make a choice, respect their self-determination, and let the masses decide without the leaders making any rigid regulations, running things themselves without consulting others or, much less, giving blind guidance. In the course of our survey, we explored the forms of responsibility systems selected and the trend of development of responsibility systems, and we deeply feel as a result that the suitability of various forms of responsibility systems depends on objective laws that cannot be changed by people's wills. The process of establishing and perfecting responsibility systems is a process of constantly overcoming and eliminating the effects of leftist ideology, and it is also a process of eliminating metaphysical methods of thinking to carry out out an ideological line of seeking truth in facts. For all forms of production responsibility systems there is a process of accepting testing through practice, and comparative examination and selection by the broad masses. Leaders at all levels have to be careful to avoid being subjective and one-sided in seeking any given form; they should genuinely turn over the power of decision to the masses. Ours is a vast country in which differences in natural conditions and the economic basis are very great, so insistence on uniformity does not fit in with realities. It is divorced from reality and divorced from the masses, and the blind pusuit of so-called "high grade" forms must inevitably produce undesirable consequences.

Some comrades regard the contracting of work tasks to individual households as the lowest form of responsibility system. Second lowest is the contracting of production to individual households; next is specialized contracting and assigning output quotas to individual able-bodied laborers; next is contracting production to teams....Such rankings reflect the erroneous views of some comrades toward "double contracts" responsibility systems. Such views must lead inevitably to the following conclusion: "Double contracting" is an "expedient measure;" and later on the contracting will be done with work teams, production units....Guided by this thinking, some places emphasize "specialized contracting and assigning output quotas to individual able-bodied laborers" with no regard for conditions. I suppose some places can practice "specialized contracting and assigning output quotas to individual able-bodied laborers" because conditions are ready for it, because there are specialities that can be divided, and because the masses want it. However, in some places where there is virtually only agricultural production or, say, only farming with little economic diversification, and where there is as yet not that much specialization, how can specialized contracting be done? Needed specialized division of labor can increase the labor productivity rate in production, but one must proceed from realities; one cannot make a specialized division of labor for the sake of seeking a "high grade" form.

Several years experience has shown that in most places in the country that have developed responsibility systems the fact is that the peasants have like the contracting of work tasks to individual households as a responsibility system. The main reason has been that as compared with other forms of responsibility system, "benefits are most direct, responsibilities are most concrete, and methods are simplest." In terms of natural and economic conditions prevailing in most parts of China, thos form of responsibility system is most suitable. This is another way of saying that it fits in with realities and prevailing levels of administration and management in those areas. In particular, practice of this form of responsibility system entails no evaluation of work and recording of workpoints, and it has been the form most welcomed by the broad masses of peasants. In acertain sense, the contracting of work tasks to individual households is a major administrative and management measure that has been worked out in China's agricultural production in the course of taking the collective path. It has been worked and reworked and a great price has been paid for it. It both takes advantage of the superiority of the collective economy and fully arouses the enthusiasm of the broad masses of peasants. It has solved a fundamental problem that has gone without solution for a long time in the administration and management of agricultural collectivization.

Trend of Development of Contracting Work Tasks to Individual Households

What is the future trend of development of the contracting of work tasks to individual households? Is it true that it will take the same old road of going from households to able-bodied laborers, from able-bodied laborers to work teams, and from work teams to production teams, gradually rising from level to level. I do not believe this is possible, and it will not work.

Well then, just what is the trend of development in the contracting of work tasks to individual households? Following the contracting of work tasks to individual households, mass enthusiasm has been fully aroused, potential for increased production has been tapped, and the labor productivity rate has greatly increased. On the one hand, expansion of reproduction capacity in agriculture itself has increased; on the other hand, some workforces have been gradually separated from agricultural production and transferred elsewhere to open production avenues and to develop economic diversification and commodity production. Working on the principle of voluntary participation for mutual benefit, some of this portion of the workforce has organized new economic collectives; some may be shifted to commune and brigade enterprises to engage in economic diversification and commodity production; and some may go into cultural, scientific, or sanitation work, or else transfer into the service trades. As production develops and the degree of specialization and socialization of production steadily increases, a large part of this portion of the workforce may gradually be removed from agricultural production and take the road of specialized association.

As regards agricultural production, by which is largely meant the farming industry per se, for a majority or an overwhelming majority of households that do farming in a decentralized way there will be no change for a fairly long historical period. A small portion or an extremely small portion may general loose associations or mutual help on the basis of genuince voluntary participation for mutual benefit. The reason is that farming by individual households fits in with the characteristics of agricultural production, and it fits in with the demands of the peasants. The size of production organizations and the number of workers or the number of workers who work together have nothing whatever to do with whether production relationships are progressive or backward, and they do not tell whether labor efficiency is high or low. In China, in particular, where the size of the population is large relative to available cultivated land, peasant production has to take the road of a high degree of intensive farming and succeed through painstaking and meticulous cultivation of the soil. Decentralized farming by individual households also holds possibilities for agricultural mechanization. Modernized socialist agriculture in China proceeding from the country's realities and progressing through exploration can follow its own path.

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PRICING OF AGRICULTURAL, SIDELINE PRODUCTS EXPLORED

Meaning of Price Policies

Guangzhou GUANGZHOU RIBAO in Chinese 29 Jul 82 p 4

[Article by Zhang Changcai [1728 7022 2088]]

[Text] In order to control agricultural and sideline products in a planned way and to make overall arrangements with the needs of all concerned in mind, the state has established categories I, II, and III on the basis of the importance to the national economy and the people's livelihood of various agricultural and sideline products. It has also formulated centralized procurement, assigned procurement, and negotiated procurement policies. Practice has shown this policy to be consistent with the country's circumstances and to play a major role in advancing development of agricultural production, in guaranteeing the needs of society, and in fundamentally stabilizing market prices.

Some comrades suppose that all that is necessary for the formulation of procurement price policies for agricultural and sideline products is to follow the laws of value. We believe, however, that centralized procurement, assigned procurement, and negotiated procurement policies must be decided by the nature of the socialist planned economy, and will have to be followed and carried out for a fairly long time to come. This is because practice of this policy fully reflects the principle of taking the planned economy as the key link with market regulation being supplementary. This is to say that for category I and category II centralized procurement and assigned procurement products that are related to the national economy and the people's livelihood and affect the overall situation, in the macro-economy the state has to strengthen centralized unified planned management and necessary administrative interference. For category III negotiated procurement products, in the micro-economy enterprises and individuals enliven the economy. For example, of all the agricultural and sideline products procured by all supply and marketing departments in the country last year, category I and category II production accounted for 83.9 percent, and category III products accounted for 16.1 percent of the total agricultural and sideline products that state commercial departments procured; the portion purchased at negotiated prices came to only 13.8 percent. From this may be seen that centralized procurement and assigned procurement products controlled by and under the mastery of state plan constitute the largest portion. This reflects the dominant role of plan with only a small amount being regulated by the market, which plays a role supplementary to plan.

It should be noted that in implementing centralized procurement, assigned procurement, and negotiated procurement policies for agricultural and sideline products, it is not that there is no desire to use the laws of value, but rather that only by taking the planned economy as the key link is it possible to use accurately and bring into play the role of the laws of value. China must still energetically develop commodity production and commodity exchange. Because of the energetically develop commodity production and commodity exchange, the value of commodities continues to be the basis for price. That commodity price has to be generally in accord with value is an objective requirement of the laws of value. Consequently, in carrying out the planned economy, it is necessary to adopt forms of commodity value, and in formulating plan, the state also has to fully use the laws of value. Practice has shown that whenever procurement prices for commodities have been set equitably and are fundamentally in accord with requirements of the laws of value, peasants can obtain fair remuneration of these agricultural and sideline products that they sell; development of these agricultural and sideline products will be rapid, and state procurement plans will be smoothly fulfilled. Whenever procurement prices are set too low in violation of requirements of the laws of value, peasants are unable to get fair remuneration, development of production is impaired, state procurement plans cannot be fulfilled, and a shortage of supply in relation to demand develops in markets. Whenever procurement prices are set too high, blind development of goods may be spurred; state procurement plans cannot be controlled or large overstocking and spoilage of goods may occur occasioning losses in production. In short, agricultural and sideline product procurement must adhere to taking the planned economy as the key link, but the role of the laws of value cannot be ignored either.

Some comrades have asked whether the higher procurement prices paid for agricultural and sideline products the better, or whether there should be a limit. We believe that there surely has to be a limit. Furthermore, at the present time, a relative stability must be maintained within prevailing limits. This is because of the following:

First, prevailing agricultural and sideline product procurement prices are fairly equitable, and they have increased peasant earnings. As a result of almost 3 years of increased prices for agricultural and sideline products, comparison of 1981 with 1978 shows an average annual incremental increase of more than 10 percent in the procurement prices paid for agricultural and sideline products in the country, but that in the 28 year period from 1950 until 1978, the average annual incremental increase for agricultural and sideline products was only 2.8 percent. As a result of increased prices paid for agricultural and sideline products, the average annual per peasant increase in earnings for 1979 and 1980 taken together was somewhat more than 20 yuan. In Guangdong Province, as a result of increases in procurement list prices paid for agricultural and sideline products during the past almost 3 years, peasant earnings have increased by more than 1.4 billion yuan. The difference between list and negotiated price in money received for agricultural and sideline products peasants sold at negotiated prices was more than 2 billion yuan. It may be seen that following almost 3 years of readjustment, the procurement prices paid for agricultural and sideline products are fairly equitable. This has promoted development of agricultural production, and peasants have also increased their earnings.

Second, great changes have taken place in comparative prices paid for industrial and agricultural products. The comparative price coefficient in the exchange of agricultural and sideline products for industrial products in the country increased by 263 percent in 1981 as compared with 1950, i.e., an equal amount of agricultural products could be exchanged in 1981 for more than one and a half times the industrial goods obtainable in 1950. In addition, yet another major change occurred in the comparative prices of agricultural and industrial products, namely that during the past almost 3 years, as a result of the institution of production responsibility systems in agriculture and the launching of economic diversification, the labor productivity rate has increased and production costs for agricultural and sideline products have decreased. Meanwhile the labor productivity rate in industry has decreased, and production costs have risen in a situation that is just the reverse in agriculture. During the first 11 months of last year, the labor productivity rate for all personnel in industrial enterprises owned by all the people fell 3.2 percent as compared with the same period the year before, and comparable production costs increased 1.1 percent. Because of these changes, the prices for agricultural and sideline products increased relatively and prices for industrial products decreased relatively.

Third, increased prices for agricultural and sideline products also depend on the extent of development of industrial productivity. Increases in agricultural and sideline product prices requires the state to allocate money, and the state's money is provided mostly by industry. More than 90 percent of national revenues come from industry. Consequently, increase in prices for agricultural and sideline products must proceed from the reality of the country's level of development of industrial productivity. On the one hand it is necessary to see whether industry is able to provide corresponding industrial products to satisfy peasant needs. If procurement prices paid for agricultural and sideline products are increased and it is not possible correspondingly to increase the supply of industrial goods, the peasants will still gain no benefit. In addition it is necessary to see the extent to which industrial polants improve economic benefits. This is because in order to increase prices paid for agricultural and sideline products costs for industrial goods produced by plants requiring agricultural and sideline products as raw materials for their manufacture will also increase. Only when industrial plants are able through increase in economic benefits to offset the increased costs occasioned by increased prices paid for agricultural and sideline products can the peasants derive genuine benefits from increases in prices paid for their agricultural and sideline products. Today state price subsidies paid in prices for agricultural and sideline products amount to 32.1 billion yuan. With the increase in agricultural production and the increase in quantities of agricultural and sideline products procured, subsidies will increase annually by 1 billion and several hundred million yuan. Were the procurement prices paid for agricultural and sideline products to be raised as well, construction funds would be reduced and public deficits increased, thereby impairing national construction.

In summary, for some time in the future it will be impossible to raise the purchase prices paid for agricultural and sideline products. The peasants cannot rely solely on price rises to become prosperous, but rather they must rely on efforts to develop production, lower agricultural production costs, and raise labor productivity on the basis of prevailing price levels for agricultural and sideline products to increase earnings.

Increased State Burden

Beijing CAIZHENG [FINANCE] in Chinese No 8, 5 Aug 82 p 25

[Article by Yun Zhiping [0061 1807 1627]]

[Text] In recent years the state has greatly increased procurement prices paid for agricultural and sideline products. In the 3 year period between 1979 and 1981, they rose by a total of 38 percent (including a 23.5 percent increase in list price) for an annual average increase of 11.4 percent, which was fairly great. As a result of the increase in prices paid for procurement of agricultural and sideline products, the interests of the peasants were fairly well taken care of. This powerfully spurred the enthusiasm for production of the broad masses of peasants and promoted development of agricultural production. These measures were correct without doubt. Right now the main problems are: first, some areas act themselves to increase procurement prices, enlarge the socpe of price increases, increase the extent of price increases, increase price differential subsidies, and lose control over negotiated prices. This has meant an increasingly heavy burden for the public treasury. State subsidies from public funds for agricultural and sideline products, for goods used to support agriculture, and for other products increased from 7.9 billion yuan in 1978 to more than 32 billion yuan in 1981, and equalled 32 percent of the national budget. Unless this trend is brought under control, subsidies may exceed the extreme limit that the national budget is able to bear. Second, results have not been very good from payment of increased prices for excess procurement and from procurement at negotiated prices. Total amount of procurement has not increased much, and procurement at list price has become less and less while procurement at increased prices and negotiated prices has increased more and more, adding to the drain on the public coffers. In 1981 quantity of grain procured increased by 15.5 percent over 1978, but quantity procured at list price fell 29.4 percent. Meanwhile procurement at increased prices and negotiated prices doubled and tripled respectively. List price procurement as a ratio of total procurement fell from 69.3 percent in 1978 to 41.7 percent in 1981 while the ratio of added price procurement rose from 24.3 percent to 41.7 percent and the negotiated price procurement ratio rose from 6.4 percent to 16.7 percent. Teh procurement picture for oil and cotton was similar to that for grain. From 1979 to 1981 funds paid for increased procurement at added price or at negotiated price annually averaged more than 4 billion yuan, adding to the burden on public revenues. In addition, because of differences in state requisition procurement base figures, vicissitudes became increasingly serious and contradictions more conspicuous from one area to another and between one variety and another in added prices paid for excess procurement.

In order to stabilize agricultural and sideline product prices and control public fund subsidies, the following measures should be adopted:

First of all, procurement prices for agricultural and sideline products should be basically stabilized within what they have been in recent years. Except for individual items, there should be no further price increases, added prices, or subsidies. Increases in prices, added prices, subsidies, rebates of profits, and such methods that jurisdictions have put into practice of their own volition should be cancelled. In addition, negotiated prices should be restructured in a gradual contraction of the scope and numbers of things included in negotiated prices with stabilization of negotiated price levels and control of quantities purchased at negotiated prices and sold at parity prices to reduce the state's burden. Prices for agricultural and sideline products should be handled in accordance with state regulations with adherence to taking plan prices as the key link and market regulation as supplementary with no doing as one pleases.

Second, consideration could be given to changing the prevailing added price paid for excess procurement of grain, oil, and cotton to an added price for fixed proportions. This would mean setting separate proportional state requisition procurement and excess procurement, arriving at price on the basis of the fixed proportions and the extent of added price. Advantages in so doing are as follows: the interests of both the country and peasants would be concurrently cared for. The more grain, oil and cotton sold, the greater the peasants' earnings and the greater the benefits for the country. All the vicissitudes of added prices for excess procurement could also be eliminated. Furthermore, while protecting the peasants' just interests, inequitable expenditures for added prices could be reduced for a lightening of the drain of public coffers.

Third is use of a system of assignment of sole responsibility for added price funds for grain, oil, and cotton. Right now all the added price funds for grain, oil, and cotton are borne by the central government treasury, which makes for difficulty in strengthening management, ease in expansion of the added price proportion, and increase in the extent of added prices. In order to stir all jurisdictions' enthusiasm for managing added price funds, nationally set base figures could be used in making assignments of sole responsibility to individual provinces, autonomous regions, and directly subordinate municipalities. In the case of excess quantities procured, the user would pay. If the central government were the user, the central government treasury would be responsible; if local governments were the users, local government would bear the burden.

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BENEFITS OF IMPROVED VARIETIES OF CROPS EXPLAINED

Increased Yield Potential

Beijing ZHONGGUO NONGMIN BAO in Chinese 19 Aug 82 p 2

[Article by Bu Shouchen [6752 1343 5256], Seed Station, Ministry of Agriculture, Animal Husbandry and Fishery]

[Text] General Yield Increases of More Than 10 Percent From Newly-Promoted Varieties

New varieties that have been approved for promotion by the state produce yield increases of more than 10 percent. Though not all yield increases are as much as 10 percent, the varieties possess superior properties of other kinds. For example, quality may be good, they may be early ripening, be highly adaptable, or strongly resistant to diseases and insect pests, making them worth promoting.

Seed departments in all jurisdictions regularly recommend new varieties to the peasants in order to satisfy urgent rural needs. For example, the new cotton variety, Esha 28, that has been promoted in Hubei Province has produced 38.46 percent greater average yields than Eguang stock variety cotton in area experiments at 31 sites (or times). Its fiber quality is rather good; it is widely adaptable, and its shortcomings are rather poor purity and lack of resistance to verticillium wilt. This new breakthrough variety has been promoted over wide areas of Hubei Province, and it will certainly mean tremendously increased yields for that province. New varieties of grain crops such as the new He'nan wheat variety, Bainong 3217, and Hebei's Jimai No 7, etc., are also being rapidly promoted. Nevertheless, generally speaking, in many places no successor varieties are in sight, so the old varieties that have been used for many years cannot be changed. New breakthrough varieties, in particular, are too scarce.

Purified and Rejuvenated Seeds Product 5 to 10 Percent Greater Yields Than Mongrelized and Degenerate Varieties

Seed mongrelization and degeneration is a major element impairing increases in crop output, and purification and rejuvenation for regular renewal of seeds used is a major means of solving this problem. Practice has shown the following: purified and rejuvenated seeds may increase yields by 5 to 10 percent as compared with mongrelized, degenerate seeds. A survey conducted for 3 years running by the Fengxian County Seed Company in Shanghai Municipality showed yield increases of 6 to 7 percent for wheat, and paddy rice, 10.4 percent for cotton, and 10.2 percent for rape from purified and rejuvenated seeds as compared with seeds of relatively poor purity. In another case, a survey done this year by the Shandong Wheat Inspection Team at Longquan Production Brigade in Laiwu County showed purified and rejuvenated wheat variety, Taishan No 1, produced 92.9 jin per mu, a 14.7 percent increase as compared with unpurified and unrejuvenated seeds of the same variety. In fact, when purification and rejuvenation of varieties is done properly, the varieties are by no means inferior to and may surpass some varieties being newly promoted.

Following Machine Processing and Selection of Seeds, Yield Increases of 5 to 10 Percent

Machine processing and selection of seeds is a new job in China. Use of seeds that have been machine selected can both save on the number of seeds used and on manpower, and can increase yields. Experiments conducted at Jiangling and Jingshan counties in Hubei Province show that after rice and wheat seeds had been selected, the sprouting rate increased by 3 to 5 percent. After defuzzing in sulfuric acid, the cotton seed sprouting rate increased by 10 to 15 percent. Furthermore, according to comparison experiments conducted for many years in Wujin County, Jiangsu Province, and 17 experiments conducted at seven stock variety farms in Changge and Jiyuan counties in He'nan Province, sprouting rates increased by a general 10 percent for seeds that had been selected versus seeds that had not been selected. Under similar production conditions, this meant a 10 percent increase in grain yields from 10 percent fewer seeds.

Today selected and processed seeds account for only about 5 percent of the total volume of seeds used, so a very great potential exists. Were all the country's seeds used for open field crops to be processed and selected as well as mixed with pesticides to prevent diseases and insect pests, a saving of several billion or even tens of billion jin of seeds would be entirely possible to say nothing of the increase in grain output.

Increased Yields of More Than 100 Jin Per Mu From Hybrid Rice

The history of development since founding of the People's Republic has shown the following: each major breakthrough on a crop variety plus other technical measures for increasing yields can result in tremendous increase in outputs. Hybrid rice is one example, with increases in yields of more than 100 jin per mu or even 200 to more than 300 jin in some places.

Hybrid rice has been promoted for 7 years, yet the growing area amounts to only about 16 percent of the total; a very great potential still exists. Currently the situation for the spread of hybrid rice is very uneven. In Sichuan Province the spread has been fairly rapid. As of last year it was being grown on more than 13 million mu with a 2 billion jin increase in grain resulting from this single case alone.

A positive attitude is necessary for development of hybrid rice. Leaders have to make up their minds, see clearly, and then work with determination. A scientific attitude is necessary too. There has to be experimentation and demonstration first, followed by promotion.

Aside from the four aforestated potentials for increased yields, there is still one other. If a superior variety can definitely be grown in a certain area, when grown in another area it may produce decreased yields. A variety may produce increased yields in area A while it will not necessarily produce increased yields in area B or may even produce reduced yields. Today some of the varieties being grown in a place are by no means the optimum varieties for the place, and some places are still giving no concern to local conditions but are blindly advocating the growing of so-called "high yield crops." As to just which crops will produce high yields, only comparative experiments done locally under identical production conditions will show. There has to be an adaptation of general methods to local situations, and if science is not respected, it will be difficult to avoid blind guidance. If this work is done well, increases in yields are possible.

Questions Answered

Beijing ZHONGGUO NONGMIN BAO in Chinese 19 Aug 82 p 2

[Article: "How Can the Peasants' Urgent Needs for Superior Varieties Be Satisfied"]

[Text] Question: What new situations have arisen in seed work since institution of rural production responsibility systems?

Answer: One is that peasant demand for seed quality has gone up. Second, quantities have increased. Third, the scope of seed supply has expanded; not only are grain crop seeds wanted, but economic crop seeds and vegetable seeds are also in demand. Fourth is demand for improvement in the way of doing business that requires seed companies to use flexible methods of many kinds in providing service. Fourth is a requirement for promotion of both superior varieties and superior methods, concern about economic results, and shouldering of economic responsibilities.

Question: How can the peasants' urgent needs for superior varieties be satisfied?

Answer: Production of superior varieties, particularly hybrid seed production, requires strict technical conditions and separation conditions. Only by establishing special concentrated continuous tract seed production bases is it possible to provide peasants seeds of high purity and good quality at low cost. Seed bases include state-owned superior variety farms, seed company bases under special arrangements, commune superior variety farms, and production brigade seed teams. Sole reliance on state-owned superior variety farms cannot satisfy needs. It is necessary to operate commune and brigade seed production bases as well. Because of faulty understanding and abandonment of leadership of production responsibility systems in some places, some commune superior variety farms and production brigade seed teams have been disbanded. This is wrong. Communes and brigades that have already established seed bases should consolidate and improve them, and those that have not yet established them should do so with all possible speed.

Question: What several forms of seed supply are there today?

Answer: In addition to foreign trade in seeds being centrally handled by the China Seed Company, currently the main forms of supplying seeds are as follows: one is supply by seed companies; a second is centralized seed supply by communes and production brigades; and third is county and commune joint seed supply, and county, commune, and brigade, three-tier joint seed supply. In order to assure seed quality and promote agricultural production, other units and individuals may not take it upon themselves to deal in farm crop seeds. Reports from some places tell of unscrupulous pedlars selling seeds at high prices, some of which have been adulterated to cheat people. It is hoped that production units and commune members will not buy seeds at random from unscrupulous pedlars in the streets.

Question: What are the main seeds that seed companies currently deal in?

Answer: First is seeds that are strongly technical and have high commodity value such as hybrid rice, hybrid corn, and hybrid gaoliang. Second is seeds that easily become mongrelized and degenerate, and seeds that are not sown in large amounts such as cotton, vegetables, millet, and rape. Third is stock seeds that have undergone purification and rejuvenation, and newly bred conventional superior varieties. Fifth is seeds prepared for unusual places. Sixth is suprior seeds to provide disaster relief and prepare against natural disasters.

Question: How can the way of doing business be improved to accommodate the masses?

Answer: On the basis of experiences in various places, it is necessary to adopt the following measures: first is to increase the number of seed supply stations and to set up retail stores for close-by supply, or even to deliver seeds to production teams or households. Second, when the masses buy seeds, any amount should be sold them at any time. They should be sold whatever amount they want to buy, and they should be sold then whenever they want to buy them. They should also be permitted to select them and exchange them. Third, in addition to trading grain for seeds, negotiated sales should be permitted to solve the problem of "difficulties in selling grain in exchange for seeds." Fourth is to take the initiative in providing briefings on the special properties, special characteristics, and special qualities of varieties, particularly providing information on growing techniques. Fifth is establishment of a seed salesman system. Sixth is not permitting supply of seeds that are not up to specifications, much less permitting the inferior to be represented as being good in a resort to deception. If it is discovered that varieties supplied were not what was wanted or that quality did not meet requirements, all economic losses resulting therefrom must be indemnified.

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CSO: 4007/580

BRIEFS

STATE FORESTRY FARMS--Since 1979, state forestry farms in China have produced an average of 4 million cubic meters of lumber each year, 70 million jin grain, 14 million jin fruit, 1.9 million jin tea and 700,000 jin medicinal herbs. [Text] [OW231311 Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

CSO: 4007/2

ANHUI BEGINS ANTIFLOOD WORK IN STRICKEN AREAS

OW191215 Beijing XINHUA Domestic Service in Chinese 0012 GMT 18 Sep 82

[Text] Hefei, 18 Sep (XINHUA)--The Anhui Provincial CPC Committee and People's Government have organized nearly 200 cadres from units directly under the provincial authorities into 31 work teams to carry out flood relief work. These teams, led by Yang Weiping and Yuan Zhen, secretaries of the Provincial CPC Committee; Meng Fulin, vice governor; and 41 cadres at the bureau and division levels, left for 8 prefectures, 4 cities and 33 counties on 5 September to inspect flood damage and assist local governments in mobilizing the masses to launch self-help activities, resume production and overcome difficulties caused by floods with a view to winning a bumper agricultural harvest for the whole year.

Anhui Province has had good harvests of summer crops including grain and oil-bearing crops as well as early rice. Autumn crops are growing well in most parts of the province and a bumper harvest is in sight. However, some localities have been hit by serious floods and waterlogging. Since early June, continuous and heavy rainstorms hit areas north of the Huai River, between the Changjiang and Huai Rivers and south of the Changjiang River. A total of over 14.9 million mu of crop fields were damaged and 250,000 houses collapsed. The total grain loss is estimated at 2 billion jin.

To minimize the damage, help flood victims arrange production activities and maintain their livelihood with a view to winning victory in the antiflood struggle, the Anhui Provincial CPC Committee and People's Government organized work teams in good time and sent them to the flood-stricken areas to assist local governments in launching self-help production activities. They emphasized that main efforts should be concentrated on developing production by strengthening management of late autumn crop fields, making good preparation for autumn sowing and successfully planting wheat according to the required quality and quantity. At the same time, further measures should be explored to develop diversified economy.

The provincial leadership urged that in the self-help production campaign, major efforts be concentrated on such heavily affected areas as Xiaoxian County in northern Anhui and on the flood drainage and retention areas along the Huai River to enable people there to live a stable life and do production work without worry. Good-harvest areas should assist disaster areas and mutual help should be initiated among the masses in order to unite their efforts in jointly overcoming difficulties.

At present, inspired by the spirit of the 12th CPC National Congress and led by party organizations and people's governments at all levels, the people in Anhui's disaster areas are working with one mind and with full confidence to wage the struggle to overcome the difficulties caused by natural disasters.

CSO: 4700/2

GRASSROOTS SUPPORT FOR GOVERNMENT, COMMUNE SEPARATION REPORTED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 7, 1982 pp 17-18

[Article: "Need For Separation of Government and Communes and Need For Gradualism"]

[Text] Following announcement of the revision of the constitution, the He County CCP Committee and people's government in Anhui Province assembled cadres for study and discussion. Remarks they made in discussion of the issue of separation of government and communes have been selected for publication here.

County Civil Government Bureau Chairman Yang Yucai [2799 3768 2088]: I formerly did rural grassroots work for many years. In 1956 I began as a township leader, later on becoming a commune secretary for the last 10 years. I have had a full taste of the joys and trials of commune work. When the new draft constitution seeks to separate government and communes,I raise both hands in support.

If you compare the separation of government and communes during the period immediately following Liberation with the subsequent combining of government and communes, I feel that the separation of government and communes is the better of the two. During the early 1950's a township had only three officials, a political instructor, a township leader, and an office worker. At that time the political instructor looked after party work and understood programs and policies; the township leader looked after administrative matters; and the office worker worked with the township leader to handle grain taxes, to settle civil disputes, and to perform marriages. The deputy director of the cooperative devoted himself to production. Everybody's duties were clear, the division of labor straightforward, and work was done in an orderly way. After government and communes were combined, the commune CCP Committee secretary took on everything. He both headed the party and headed administration and production. As a result, the party replaced the government and the government replaced communes. There was a lot of hustle and bustle yet work was not done well. In 1975, when I was secretary in Luobai Commune, I realized that though the soil was very fertile in the 18 production brigades of this commune, nevertheless they had grain sold back to them by the state year in and year out. I was very agitated and right after the new year I quietly made up my mind that if I were to stay in this production brigade for a year, I would change the low production situation. I told other CCP committee members about my idea, and they supported me. But I remained there for only 2 months that year and spent the other 10 months in meetings, in resolving disputes, in writing comments on reports, wasting my times on such trifles. In all matters great and small, the secretary had to be sought out to give the nod. Even the release of emergency rescue funds and the distribution of chemical fertilizer required my approval before they could be done.

Granted that the blind direction given to agricultural production some years ago was caused by the ultraleftist line; still, the lack of separation between government and the communes cannot be said not to have been a cause. The masses of commune members at Luobai Commune had been in the habit of growing one crop of intermediate rice. This had been dictated by this commune's objective water, fertilizer, and work force conditions. In 1976 the county wanted the commune to grow 15,000 mu of two crops of rice, but neither the production leader nor the masses agreed. During discussions by the commune management committee, five out of seven committee members opposed. The commune management committee deputy chairman, who was of peasant origins and had been born and brought up on the soil, likewise advocated either not growing two crops of rice or growing less of it. At that time I was the commune secretary and concurrently chairman of the management committee. In order to resolutely carry out the instructions of higher authority and without concern for the views of the majority, I finally gave the verdict to plant the 15,000 mu. Because this matter had been handled against the wishes of the people, it was resisted by the production team leader and the masses. For this reason I held eight consecutive meetings of the brigade and production team leaders and repeatedly mobilized and forced subordinates to regard the matter as a political task for fulfillment. As a result, because water, fertilizer, and workforces were not equal to the task, the farming season passed with 3,000 mu not being planted, and 6,000 mu were transplanted without any manure at all. Yields averaged only a little more than 200 jin per mu. The masses had wasted their labor and incurred costs for nothing, and they harvested 1.5 million jin less grain. Had government and communes been separate, with production being directed by someone who really understood what he was doing, this loss could have been avoided. The newly revised draft constitution's call for separation of government and communes will help the modernization of agriculture, and it will be heartily welcomed by rural grassroots cadres and the peasant masses.

Bajiao Commune CCP Committee Secretary Hu Kefa [5170 0344 3127]: Following communalization, the party, government, and communes actually ran everything, and the commune secretary was responsible for everything in a chaotic situation in which the party did not look after the party, the government did not look after the commune. If you said not to do something, everybody did it. If you said to take care of something, because of the unclear division of labor and murky responsibilities, it was never taken care of as it should have been. As a result nothing was taken care of properly. In order to comple promotion of double crops of rice, some years ago we commune secretaries would go separately into production teams around the time of qingming [around 5 April] to supervise the masses soaking of rice seeds, fearing lest the masses not plan according to plan. Where would such a commune secretary find time to give attention to ideological and political work and to build up the party? Now that the revised draft constitution provides for a gradual separation of government and communes, naturally I agree. Nevertheless, change must come gradually; it cannot come too fast. Following Liberation, small townships became large townships, and large townships became communes. In 1963, large communes became small communes; in 1969 administrative divisions were disbanded and combined with communes; in 1971, administrative divisions were re-established and small communes were designated. What with all the changes, no improvement or genuine vigor occurred in production until after the Third Plenary Session [of the 11th Party Central Committee]. This shows that it is not the names of organizations that is important but rather whether or not party programs and policies are correct. Right now the rural situation is better than at any period in the past, and the mass of peasants can say that they live in peace and are happy in their work. Yet they all have fear of "change," and no matter where the "change" comes from, it can cause some mental turmoil. Though communes are said not to be perfect, nevertheless they have been in being for more than 20 years. Cadre systems and farm management systems that have an impact on cadres and the masses should go through pilot projects, be carefully undertaken, and gradually promoted. Practical problems have to be solved well. For example, what is to be done with existing commune and brigade cadres? How will commune and brigade enterprises be managed, and will organizational and administrative cadres be set up below the township (or town) level? If not, will the country provide for expenses or will the masses have to chip in? All these problems have to be given all-around consideration and specific methods worked out. If they are not, problems will occur.

Wujiang Prefecture CCP Deputy Secretary Wang Yuesan [3769 2588 0005]: The combination of government and communes has meant that "superiors look after astronomy and geography while subordinates look after trifles such as chicken feathers and garlic skins," both administration and production being handled exclusively by superiors. When there are a thousand threads above and only one needle below, and everyone wants to thread the needle, the eye of the needle becomes blocked. The reason why commune cadres hurry and hustle, and are constantly weighed down with work lies here. The revised draft constitution stipulates establishment of township (or town) governments with a separation of government and communes, and this is favorable for the modernization of agriculture.

Following institution of production responsibility systems, work will devolve upon households and individuals, and the amount of work will be greater than formerly. How will a single production brigade with as few as 300 or 400 households or as many as 500 or 600 households be able to handle things with only three cadres? The biggest headache today is that a great many departments have been set up by superior authority; there are many meetings, numerous reports to write, and many documents to read too. When, in addition, government and communes are combined, it makes it difficult for subordinate echelons to cope. For example, apart from the county CCP Committee and county government, there are more than 30 first rank bureaus in our country, and if each bureau issues only one document a month, that becomes a large packet for those below. There is not enough time to read them all let alone implement them. Consequently, I feel that no matter how government and communes are divided, it is streamlining of the upper echelons, full staffing of the grassroots level, and strengthening of the frontline that is important. This is the only way to help production and to help work. I hope that when superiors are considering the separation of government and communes that they will give a lot of attention to the characteristics of government at the grassroots level, and that they will spend a little money and do everything possible to send some cadres excused from regular production duties to the grassroots to work at running grassroots government and cooperatives correctly. It does not do to have a heavy head and light feet, with an overlapping of organizations at the top and overstaffing, while at the lower levels people are hustling and bustling trying to cope. If this is the way things are to be, the separation of government and communes will not produce any results either. If central government organization streamlining is done quickly with good results to provide a good model for the lower levels, grassroots level government should also ride the east wind announced by the revised draft constitution for a revival, which would help the modernization of agriculture.

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RENOVATION OF QING HE SEGMENT COMPLETED

Beijing BEIJING RIBAO in Chinese 25 Jul 82 p 1

[Article: "Work Finished and Water Flows on Lower Reaches Segment of Qing He Control Project After 4 Years Work Without Let Up. Solves Drainage of Water From City's Northwestern Suburban Towns and Draining of Waterlogging from Farmlands. More than 30,000 Civilian Laborers and Municipal Capital Construction and Machine Construction Contingents Fulfill Tasks Splendidly"]

[Text] After more than 4 years of arduous and unrelenting effort, the Qing He control project, which was begun to solve drainage in the city's northwestern suburban towns and to drain waterlogging from farmlands, was recently completed and water began to flow through the project segment in the lower reaches.

The Qing He is a main waterway for drainage of Beijing's northwestern suburbs that flows through the four prefectures and counties of Haidian, Chaoyang, Changping, and Shunyi. Because of many years neglect, many segments of the river have collapsed or silted and become choked with wild growth that seriously weakened its drainage capacity and affected normal life in the city and towns, environmental sanitation, and agricultural production. In 1978 the Municipal CCP Committee and municipal government decided to dredge this stream completely and bring it under control, as well as to set up a project command. Work formally got underway in September that year. This project, which was designed by the Municipal Water Conservancy Surveying and Design Academy planned to work from the lower reaches to the upper reaches, one section at a time. The newly designed waterway would be a little more than 4 kilometers shorter than the old one. Straightening of curves would require the dismantling or removal of 1,941 civilian houses and of industrial sideline enterprise units at 10 sites, plus the use of 3,500 mu of farmland. Time was short, the size of the project was large, and it affected many units. It was an arduous task. Comrades in charge of all departments concerned and in the four prefectures and counties proceeded with the overall situation in mind. After earnest exchange of views, they took action to overcome difficulties and finally satisfactorily solved most of the problems related to dismantling and removal of houses and taking over farmland for the project, assuring that the project would move along smoothly.

Once the project began, the prefectures and counties of Chaoyang, Haidian, Changping, and Shunyi assembled more than 30,000 civilian laborers to join in the struggle. The broad masses of civilian workers braved the scorching summer sun and faced the winter wind and snow, tramped through the mud, and put up with arduous conditions for splendid fulfillment of the quotas of earth to be removed assigned them individually. In order to reduce the intensity of labor and hasten progress on the project, in 1980 the project changed to a machine operation. The municipal water conservance, municipal government, and construction system's capital construction and machine construction contingents worked closely together and made concerted efforts to assure quality and progress on the project. The municipal government Second Company, responsible for building locks in the Qing He, lacked experience in water conservancy construction; however, they sought instruction and gained experience as needed from a fraternal unit and world strictly in accordance with design specifications. The quality of the locks they built met design standards and earned the praise of water conservancy departments.

Now dredging and renovation of an 18.47 kilometer section of the watercourse between the Beijing-Baotou railroad bridge andthe Wenyu He has been substantially finished, work having been completed on major structures. More than 29,000 trees have been planted on both banks of the new waterway to beautify the environment. As part of the construction, all units used the dredged sustained by nearby production teams.

He Qing He rises in the foothills of the Western Hills and flows past Qinglong Bridge, An He Bridge, Qing He Town, Sheajiafen, and enters the Wenyu He at Shaziying. It totals 28 kilometers in length, and two tributaries--the Wanquan He and the Xiaoyue He--flow into it. It is the main watercourse for drainage of several tens of thousan of farmland in the northwestern suburbs and for the residents, industrial plants and mines, government organizations, and educational institutions in most of the region. In 1958 the people's government organized forces to dredge this river. However, standards were very low at that time, and the stream has long since ceased to meet the ever increasing needs of urban construction. Furthermore, as a result of scouring and silting over the past 30 years, the river bed has become shallower and narrower, and the passageway throug rivers and locks along the river have become small and low, seriously impeding the flow and discharge of water. In years of torrential rains, farmlands have been innundated, villages, towns, schools, and enterprises flooded, some houses have collapsed, and communications have been cut.

This control project has included dredging of the main rivercourse, widening and deepening it, straightening out its curves, building of bridges and locks, and dredging of tributaries. Control of the main rivercourse was begun in the west at the An He lock in Haidian and extended to the Wenyu He, a total distance of 23.77 kilometers. More than 20 large bridges and locks were built, and small ones were built at more than 100 places. Following dredging, the main channel is 40 meters wide and is capable of carrying fllod waters at a rate of 486 cubic meters per second. During the rainy season, drainage of more than 30,000 mu on both banks can be assured, and in the northwestern suburbs, the cultural area, government organizations, industrial plants, and mines, as well as more than 20 villages and hamlets will be free from the threat of flooding. During water shortages, water can be provided via a diversion channel from the Miyun reservoir in Beijing, both watering farmlands and improving environmental sanitation.

9432
CSO: 4007/559

PROVINCE MAKES GOOD SHOWING IN AGRICULTURAL QUOTAS

Fuzhou FUJIAN RIBAO in Chinese 26 Jul 82 p 1

[Article: "Procurement of Major Agricultural and Sideline Products in Province Increases Over Last Year. Launching of '432' Indoctrination to Enhance National Conception. Drop From Same Period Last Year in Quantities Procured of Live Hogs, Tung Oil, Honey and Charcoal Fuel. Departments Concerned Must Take Action for Active Organization of Procurement"]

[Text] This year, except for live hogs and tung oil, procurement of the province's major agricultural and sideline products was fulfilled very well. Statistics from units concerned showed that as of the end of June the province's plan quotas for spring grain and rapeseeds had been overfulfilled by 10.8 and 93.4 percent respectively. The total quantity of agricultural and sideline products procured by business and supply and marketing departments have overfulfilled annual procurement plans by 60.4 percent, a 5.4 percent increase over the same period last year. Quantities purchases of fresh eggs, tea, flue-cured tobacco, moso bamboo, and handmade paper increased substantially over the same period last year. Last year some places in the province showed a liberal trend in sales to the state of agricultural and sideline products, caring only for the interests of a part and neglecting state plan. Quantities purchased of some items fell for a time, impairing fulfillment of state procurement plans. Ever since last winter, as a result of transmitting and putting into effect the spirit of the provincial work conference on finance and trade and the launching in rural villages of "432" indoctrination, the socialist consciousness of the masses of commune members everywhere has been heightened and their national conception strengthened. In addition, assigned procurement base figures have been set everywhere for grain and oil, live hogs, eggs, flue-cured tobacco, tea, citrus fruit, handmade paper, dried bamboo shoots, tung oil, longans, and lichees. Various methods, including issuance of state requisition procurement quota notices, certificates showing sales of agriculture and sideline products, and the signing of procurement and marketing agreements, have been adopted so that centralized procurement and assigned procurement quotas will be gradually brought to bear on production units and peasant households to promote agricultural and sideline product production and procurement work. All finance and trade departments have set up network outlets as a convenience for the masses in making sales following the decentralized sales situation resulting from promotion of production responsibility systems.

This year quality of numerous agricultural and sideline products has been strikingly improved over last year. More than 320,000 dan of tea was procured throughout the province during the first half of the year, 8.7 percent more than during the same period last year, and quality was everywhere better than last year. In Sanming Prefecture, the quality rating for unfired tea leaf procured, and transported to tea plants for processing between January and May was 70.8 percent better than during 1981. Procurement of flue-cured tobacco in the province also overfulfilled annual plan by 3.9 percent. This included 66 percent high and medium quality tobacco, which was higher than the percentage in ordinary years. However, it must be noted that the quantities procured of agricultural and sideline products such as live hogs, tung oil, honey and charcoal fuel were less than for the same period last year. Departments concerned should take action to strengthen leadership and to organize procurement in an effort to fulfill or overfulfill procurement quotas.

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CSO: 4007/553

GUANGDONG REPORT ON TYPHOON DISASTER

HK160829 Guangzhou GUANGDONG Provincial Service in Mandarin 2350 GMT 15 Sep 82

[Text] The 17th typhoon of the year hit the coast of Xuwen County yesterday and caused damage in varying degrees to a number of cities and counties in Zhanjiang Prefecture and Hainan Island. Inspired by the spirit of the 12th CPC National Congress, cadres and masses in the stricken areas actively resisted the typhoon attack and strove to reduce the damage caused by the typhoon to a minimum.

The typhoon hit the coast at Qianshan Commune, Xuwen County at about 0600 on 15 September. The typhoon's force was 7 on the Beaufort scale. The afflicted areas included Xuwen County and Haikang County of Zhanjiang Prefecture and Haikou City, Qiongshan County, Wenchang County and Qionghai County on Hainan Island. Vast areas in Zhanjiang, Foshan and Zhaoqing Prefectures generally had heavy or intermediate rainfall accompanied by squally showers. Due to its strong power, the typhoon caused damage in varying degrees to human lives, livestock, houses, crops and water conservation facilities.

Before and after the typhoon disaster arose, the CPC Zhanjiang Prefectural Committee, Hainan Regional Committee and Xuwen and Haikang County Committees sent a number of cadres to investigate the effects of the typhoon, express sympathy and solicitude for the people in the disaster areas and organize rescue work.

CSO: 4007/2

HAINAN ISSUES TYPHOON DAMAGE, PREVENTION CIRCULAR

HK180210 Haikou Hainan Island in Mandarin 0330 GMT 17 Sep 82

[Text] The commissioner's office of the Hainan Prefectural CPC Committee held an emergency meeting on the morning of the 15th. It listened to summary reports on the aftermath of the No 17 typhoon and flood prevention work. An urgent circular was issued at the meeting. It urged various areas to show the spirit of being fully responsible to the people. The areas must therefore quickly organize the masses of cadres to go deep into the midst of the front to take up any urgent matters and relief work following the typhoon.

The circular pointed out that the party committees and people's governments at all levels must realistically strengthen leadership over any urgent matters and relief work, They must immediately organize work teams to quickly get to disaster-affected areas to take charge of relief work.

The circular called on various areas to adopt the following effective measures to reduce damage from the typhoon:

1. We must do a good job of storing water to prevent hardships during the flood season. At present, most of the reservoirs in our prefecture are inadequately filled with water. All areas must take advantage of the rainy typhoon season to store more water to ensure an adequate supply for the early rice crop. A small number of areas with reservoirs which are adequately filled with water must make a point of fighting floods. Concerning those irrigation works exposed to danger, we must immediately organize forces to carry out emergency repairs.

2. We must try by every means to save agricultural crops and to reduce damage. At present, we must chiefly pay attention to draining off water and preventing waterlogging following the typhoon. The aim is to restore the affected crops to a normal state of growth. Those late paddies already ripe must be harvested without any delay. Concerning those lodged rice plants in an earing stage, we must strengthen management to guard against insect pests. Concerning sugar cane, pepper, coconut, coffee and other crops that have been lodged by the typhoon, emergency measures must be taken to save them. Those people who take advantage of the opportunity to steal or fell trees must be severely dealt with.

3. Concerning highways, postal and telecommunications facilities, electric power lines and other equipment damaged by the typhoon and floods, we must take emergency measures to ensure the smooth flow of traffic, the normal communication of information and the proper supply of power. This we can bring production and our lives back to normal. To show concern for the suffering of the people in disaster-affected areas, the civil affairs departments must make proper arrangements for the settlement of calamity-affected people and organize them to take up production to help themselves.

CSO: 4007/2

HAIKOU WORKS ON VEGETABLE OUTPUT AFTER TYPHOON

HK201422 Haikou Hainan Island Service in Mandarin 0330 GMT 19 Sep 82

[Summary] "The masses of vegetable-growing peasants in the suburbs of Haikou Municipality have taken emergency measures for the management and growth of vegetables. They are determined to quickly restore vegetable production and ensure the proper supply of vegetables for the market. The No 17 typhoon caused damage to vegetable production in the suburbs of Haikou Municipality. According to incomplete statistics, damaged vegetables reached more than 2,800 mu, affecting the supply of vegetables for the Haikou market. After the typhoon, the masses of vegetable-growing peasants took emergency measures in their rush to tend vegetable fields and to grow vegatables."

The Fantong Commune formed a plan for immediately growing more than 1,000 mu in vegetables to the production teams and peasant households. Immediately after the typhoon, the Liushuike Brigade of the commune mobilized its cadres and commune members to take care of the surviving vegetables, removing weeds, banking up the fields with earth and applying manure.

"In order to help the vegetable-growing peasants in the suburbs to tend vegetable fields and grow vegetables without delay, the seed company of Haikou Municipality has energetically tried to do a good job of providing seeds. The company has sent people to Guangzhou to purchase new vegetable seeds. The relevant department of the municipality has decided to allocate 50 tons of chemical fertilizer for the vegetable peasants to help them restore vegetable production."

The masses of vegetable-growing peasants do not forget the support rendered them by the state. They enthusiastically sell their vegetables to the state. The vegetable-growing peasants of Potou Brigade, which is well known for its production of fine seeds, are signing a purchase and marketing agreement with a vegetable company for the planned sale of 400,000 to 500,000 jin of fine seeds to meet market needs.

CSO: 4007/2

BRIEFS

GUANGXI PREFECTURE SILKWORM PRODUCTION--Nanning Prefecture in Guangxi region has developed silkworm production and reaped a bumper harvest. By the end of August, the amount of silkworm cocoons procured by the prefecture was some 5,500 dan and was 39.5 percent more than in the corresponding period last year. The prefecture overfulfilled its quota for procurement for the whole year by 28 percent 4 months ahead of schedule. [Text] [Nanning GUANGXI Regional Service in Mandarin 1130 GMT 25 Sep 82 HK]

CSO: 4007/2

GUIZHOU 'RIBAO' EDITORIAL ON INCOME DISTRIBUTION

HK281316 Guiyang GUIZHOU Provincial Service in Mandarin 2315 GMT 25 Sep 82

[Guizhou RIBAO 26 September editorial: "Do a Good Job of Income Distribution by Carrying Out the Contracts Assigning Responsibility to Commune Members"]

[Summary from poor reception] The editorial said: "In the wake of the overall launching of work in the autumn harvest, the work of distributing income in the rural areas has been put on the agenda. After the system of contracting work tasks to individual households has been generally implemented, the key to promoting the work of income distribution in the rural areas lies in seriously carrying out the contracts of assigning work."

The editorial pointed out: "The central cardinal link of promoting income distribution is to adhere to the principle of three considerations, do a good job of ideological and political work, educate the peasants to establish the idea of cherishing the state and the collective, guarantee to fulfill the state's procurement quotas and the collective's retention quotas and advocate making more contributions to the state. In areas where there are bumper harvests, it is necessary to encourage the peasants to sell more grain produced in excess of quota and more grain at negotiated prices in order to assist the state's construction. Retention by the collective is an important aspect in the consolidation and development of the collective economy and the maintenance of the main economic body of the production teams. The contractor households must also work in accordance with the regulations of the contract and fulfill various essential retention quotas fixed by the production teams. This year, [words indistinct] it is necessary to pay attention to maintaining a certain amount for mutual funds and reserve grain. At present, our agricultural establishment is not strong enough to fight against natural calamities. An efficient method to improve such a situation is to speed up agricultural capital construction. (?In this year's) income distribution, production teams which enjoy more favorable conditions must retain an appropriate amount of money as funds for agricultural capital construction."

The editorial pointed out: "Carrying at the contracts of assigning responsibility to commune members and promoting income distribution is of great significance in examining the production responsibility system of contracting work tasks to individual households and speeding up agricultural development." Party committees at all levels in the rural areas must strengthen leadership and organize strength to do a good job in this work. First, it is necessary to achieve practical results in grain production and economic revenue. It is necessary to adhere to the principle of seeking truth from facts and refrain from making false reports on production. Second, it is necessary to work in connection with commercial allocation and further perfect the responsibility system of contracting work tasks to individual households. It is necessary to sum up experience in contracting work this year and grasp the signing of contracts or revising the contracts for next year's production. The higher levels must promptly organize strength to help production teams which have not undertaken production tasks this year. The higher levels must also help the production teams solve financial problems and problems of system. It is necessary to promote financial management of the production teams this year and next year, overcome confusion, achieve production increases and expenditure control, and improve the economic return.

CSO: 4007/2

BRIEFS

HEBEI PREFECTURE GRAIN OUTPUT--Tangshan Prefecture in Hebei has increased its annual grain output by 410 million jin. [Text] [OW241441 Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

CSO: 4007/2

BRIEFS

HEILONGJIANG ARTIFICIAL LAKE--(Qinghua) Lake with earthworks totalling 270,000 cubic meters was recently constructed in Dorbod Mongolian Autonomous County in Heilongjiang Province. The completion of this artificial lake can provide 20,000 mu of water surface for fishing, improve 20,000 mu of grassland and supply water for irrigating 108,000 mu of farmland. [Text] [SK061153 Harbin HEILONGJIANG Provincial Service in Mandarin 2200 GMT 5 Sep 82]

HEILONGJIANG WHEAT SALES--As of 1 September, Nehe County, Heilongjiang Province, had handed over to the state 32.56 million jin of new wheat, overfulfilling the procurement task by 72.3 percent. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 1 Sep 82]

HEILONGJIANG STATE FARMS--By 27 August, Heilongjiang's state farms had overfulfilled by 6.6 percent its 600 million jin wheat procurement task. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 30 Aug 82]

HEILONGJIANG FARM MACHANIZATION--Since the Third Plenum of the Party Central Committee, the mechanization of farm work has developed promptly in Heilongjiang Province. As of the end of 1981, the province had 78,000 large and medium-sized tractors, 42,000 handguided tractors, 18,000 combine harvesters and 11,000 motor vehicles for agricultural use. Total irrigation and drainage power was 1 million horsepower. Rural areas throughout the province now have a power total of 12.39 million horsepower, of which, 10.34 million horsepower are machinery power. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 31 Aug 82]

HEILONGJIANG FARM MACHINERY--According to the leading party group of the Heilongjiang Provincial Machinery Administration, the total amount of farm machinery increased in the recent 4 years equalled the total amount produced in the past 26 years, of which large and medium-sized tractors increased 130 percent, small tractors 250 percent and combines 800 percent. This province now has 3.3 million horsepower of tractors and each horsepower of machinery can manage some 28 mu of farmland. Except for applying additional fertilizer and weeding, about 50 percent of the farming operations are done by machinery. This indicates that Heilongjiang Province has changed its mode of farm operations from depending mainly on animal power to machinery. Farm machinery has become Heilongjiang Province's main force for agricultural production. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 5 Sep 82]

HEILONGJIANG FOOD INDUSTRY--Making use of its resources, Heilongjiang Province has become one of the state's major food production bases. It began to build bases to produce raw materials for food, such as beets, milk-producing animals, soybeans and minor oil-bearing crops. In 1981, the procured milk and dairy product output were both 100 percent more than in 1978. The food industry's share of the total industrial output has increased from 11.3 percent in 1978 to its present 15.2 percent. In the past 3 years, rural areas have increased their income by 1 billion yuan by growing beets, oil-bearing crops, tobacco and cows. Thanks to the developed food industry, the state earned 1 billion yuan of revenue and more than 70,000 people found jobs in the past 3 years. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 30 Aug 82 SK]

CSO: 4007/2

EFFECTIVENESS OF RURAL ECONOMIC READJUSTMENT EXPLORED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese
No 7, 1982 pp 6-11

[Article by Xue Jin'ao [5641 6855 7663] and Yan Yinglong [0917 5391 7893], Economics Institute, Jiangsu Provincial Academy of Social Sciences; "Jiangsu Province's Agricultural Readjustment and Agricultural Economic Effectiveness"]

[Text] Following the Third Plenary Session of the 11th Party Central Committee, what changes occurred in the course of the readjustment of Jiangsu Province's agriculture, what was their economic effectiveness, and how to judge objectively the economic effectiveness of agriculture in an area are all questions that deserve to be explored.

1. Readjustments and Changes in Jiangsu's Agriculture During the Past 3 Years

During the past 3 years Jiangsu's agriculture has been readjusted principally in two ways.

One was readjustment of rural production relationships and distribution policies. In accordance with several CCP Committee documents on agriculture, one after another rural economic policies were instituted that respected the self-determination of production teams, enlarged private plots, developed household sideline occupations, revived country fair trade, increased the value of agricultural sideline products, reduced or exempted agricultural taxes, and strengthened production responsibility systems. In 1978, the province had 5.15 million mu of private plots, which was expanded in 1980 to 5.34 million mu. In the 2 years of 1979 and 1980 peasant earnings for commune and brigade agricultural sideline products sold to the state that derived solely from increases in state procurement list prices and excess procurement prices amounted to more than 2.7 billion yuan, an average per capita increase of 53 yuan for the agricultural population. Production that had established agricultural production responsibility systems numbered 60 percent of the total number in 1978; at the end of 1981 they numbered 97.9 percent.

The second was readjustment of the rural economic structure. Not only was the agricultural production structure readjusted, changes being made in the ratios of grain and economic crops, the farming industry and the forestry, livestock, sideline occupation, and fishing industries, but the rural economic structure was also readjusted as regards all around dealings in agricultural sideline industries and development of the household economy, etc. During the past 3 years (1979-1981), the area sown to grain averaged about 91 million mu annually, an average of about 4 million mu less annual than for the previous 3 years (1976-1978). The area sown to cotton averaged about 9.4 million mu annually for the past 3 years, an annual average increase of about 600,000 mu as compared with the previous 3 years. The area sown to oil-bearing crops long remained at the low level of the 1950's, but during the past 3 years, it annually averaged about 4 million mu for an all-time high.

Readjustment of rural economic policies and the rural economic structure brought six major changes in their wake.

1. Hastening of agricultural development. For the past 3 years, Jiangsu's harvests have been one bumper, one lean, and one ordinary. The total output value of agriculture averaged an annual 14.6 billion yuan, a 32 percent increase over the 11 billion yuan annual average of the 3 previous years for an annual incremental 6.5 percent rate of increase, which was higher than the national 5 percent increase for the same period, and higher than the province's all time high 5.2 percent annual rate of incremental increase during the previous 29 years.

2. General increase in grain and economic crops. A comparison of the past 3 years with the 3 previous years shows a 12.4 percent increase in grain output, a 16.8 percent increase in cotton output, a 79.1 percent increase in oil-bearing crop output, an increase in output of other economic crops as well. Cotton output for 1979 and 1981 and oil-bearing crops output for 1981 broke the 10 million dan mark to create a new all-time high.

3. Increase in output value of forestry, sideline occupations, and fisheries as a ratio of the output value of agriculture. Output value of farming during the past 3 years as a ratio of the output value of agriculture declined from the about 65 percent of the previous 3 years to about 55 percent. Output value of forestry, livestock raising, sideline occupations, and the fishing industry correspondingly rose from 35 percent to 45 percent. In silkworm mulberry enterprises where no development had occurred for a long time, breakthroughs took place during the past 3 years as well, with silkworm cocoon output annually averaging 720,000 dan, a 35 percent increase over the 3 previous years, and more than the all-time high of 637,000 dan reached before the war in 1931.

4. Swift Development of Commune and Brigade Industry. For the past 3 years output value of commune and brigade industry has averaged an annual 10.44 billion yuan, more than double the 4.95 billion yuan average of the 3 previous years. Output value of commune and brigade enterprises was one-sixth total output value of industry for the province as a whole; income from it was one-half total income from the three tier economy of people's communes for the province as a whole; and tax revenues from it amounted to one-eighth tax revenues from industry and commerce in the province as a whole.

5. Shortening of the Gap In Production Levels Between One Prefecture and Another. The former low producing, poverty stricken Huaiyin Prefecture had

a grain output in 1981 totaling 7.6 billion jin, taking first place in the province. Its cotton and oil-bearing crops output increased by 15.7 percent and 2.2-fold respectively. Following 4 consecutive years of bumper harvests, Xuzhou Prefecture had a grain output in 1981 that broke the 7 billion jin mark. Yancheng Prefecture's cotton output totaled more than that of Nantong Prefecture, and Nantong Prefecture's silkworm cocoon output was more than that of Suzhou Prefecture.

6. Increase in Peasant Earnings and Improvement in Livelihood. In 1981, the total amount of distributions from the collective were 29.4 percent greater than in 1978 for an annual 9 percent incremental rate of increase. Distributions per capita averaged a 19 yuan increase over the previous year. This was the year of greatest increase in earnings for commune members in recent years. Peasant living standards improved strikingly, and consumption patterns changed. During these several years the ratio of food consumption decreased year by year and the ratio of consumption for housing steadily climbed. Annually between 800,000 and 900,000 houses were either newly built or remodeled, and the house construction area amounted to about 40 million cubic meters.

The following problems also appeared in the course of readjustment.

1. Reduction in Green Manure. Because of the overly fast development of the area planted to rape, some of the area that had been planted to winter green manure was taken over. In 1979 this area had been 13.49 million mu. By 1980, it had declined to 12.37 million mu; and in 1981, it again declined to 10.71 million mu. Reduction in the area planted to winter green manure not only adversely affected the source of fertilizer for autumn grain production and caused a delay in crop rotation, which was bad for increased output for the year as a whole, but more importantly the soil was nurtured but little and used a lot. This caused a decline in soil fertility, which was bad for long term increases in agricultural yields.

2. Decline in Hog Raising. Live hogs in inventory at year and numbered 23.56 million head in 1979 for an all-time high. Later on, as a result of changes in hog raising policies, most notably a reduction in collective hog raising, the number of hogs in inventory in the province at the end of 1980 fell to 20.88 million head, and in 1981 the number again fell, this time to 19.46 million head. Unless this declining trend is quickly reversed, it will have a bad effect on manure for use in agriculture, and on market supplies.

3. Successive Years of Reduced Grain Production in Suzhou Prefecture. In 1979 grain output for the prefecture totaled 8.2 billion jin, making it the all-time high year. In the next 2 years, as a result of natural disasters, reductions in the double-cropped rice area, and for reasons associated with work, the decline in output was fairly steep. In 1982, it fell to 6.4 billion jin, and in 1981 it again fell to 57 billion jin, which was lower than the 6.9 billion average of the 1970's. This very greatly hurt the province's supply of commodity grain to the state.

4. Increase in Quantity of State Grain Procurement and Reduction in Amounts Tendered. During the past 3 years state grain procurement has averaged 10.5

billion jin per year, a 61.5 percent increase over the 6.5 billion jin "three fixeds" state procurement quota, and a 12 percent increase over the average annual quantity of state procurement for the previous 3 years. But the quantity tendered to the state has declined. The annual average of unprocessed food grain tendered for the years 1976 to 1978 was 1.4 billion jin, but the average amount of unprocessed food grain tendered to the state for 1979-1980 was only 1 billion jin.

5. Continued Fairly Great Expenses for Agricultural Production, Which Began to Turn Around Only in 1981. A comparison of the past 3 years with the previous 3 years shows a 32.9 percent in total agricultural earnings and a 33.8 percent increase in total agricultural expenses, total expenses exceeding total earnings. Total expenses as a proportion of total earnings was 39.7 percent during the past 3 years, and 39.5 percent for the previous 3 years. They were slightly higher for the past 3 years than for the previous 3 years. Total distributable earnings by basic level accounting units in the province in 1981 increased by 9.6 percent over the previous year; total expenses declined 2.7 percent, and net income increased 18.7 percent for the beginning of a turn around.

Economic Effectiveness of Agriculture in Jiangsu For the Past 2 or 3 Years

The changes, problems, and pertinent data given above about Jiangsu's agriculture during readjustment represent only a general economic analysis and indicators related to it; it does not represent an analysis of economic effectiveness and indicators related to it. Economic effectiveness of agriculture means the comparison of the expenditure of labor (including the position held by labor) in the agricultural field and its production processes and the fruits of that labor, i.e., the frequently stated comparison of expenses and income. It is also a comparison of investment and output.

In the agricultural production process, numerous factors play a role in the economic effectiveness of agricultural production. The major ones are natural factors, economic factors, and scientific and technological factors. Apart from the natural factors, the major investments in agricultural production may be summarized as land, labor, and capital. The ultimate goal of agricultural production is to satisfy the needs of the material life and cultural life of all the people including the peasants. Therefore, in accordance with existing conditions, in the evaluation of the economic effectiveness of agriculture, five indicators may be applied, namely soil productivity rate, labor productivity rate, funds productivity rate, agricultural products commodity rate, and peasant benefits rate. In a society in which commodity production exists, not only can quantities of actual goods produced in agriculture be used as an indicator, but the amount of their value can also be used as an indicator. For convenience in making unified measurements, in evaluating the economic benefits of agriculture in an area, the value indicators should be paramount and the actual goods indicators ancillary.

1. Soil Productivity Rate. Soil is a basic means of production in agriculture for which there can be no substitute. It is both a natural resource and the production of human labor. It is a special form that embodies labor

that possesses very disparate characteristics of being a fixed asset created by human labor and being a means of labor. The soil's utilization value can never be completely depleted, and the soil's "value" can never be completely transferred. In agricultural production, the economic benefits derived from the use of living labor and embodied labor are determined, to a very great extent, by the level of soil utilization. In evaluating the economic effectiveness of agriculture in an area, it is necessary, first of all, to examine the effectiveness of soil utilization, i.e., to make a comparison of the land used with the fruits of labor. In order to reflect in an overall sense the state of utilization of agricultural land resources throughout the province to explain the labor created value per unit of land area used for agriculture, we used the two indicators of gross output value per unit of land area used for agriculture and net output value per unit of land area used for agriculture. The readjustments of the past 3 years in Jiangsu Province as reflected in economic benefits of land utilization have increased remarkably in comparison with the 3 years prior to readjustment. The land productivity rate for the 3 years of readjustment annually averaged a 17.3 percent increase, and the land net productivity rate averaged a 32.3 percent increase.

	Gross Output Value Per Unit of Land Area Used for Agriculture (Yuan)	Net Output Value Per Unit of Land Area Used for Agriculture (Yuan)
1976-1978 average figure	85.2	44.2
1979-1981 average vigure	99.9	58.5
Percentage Increase	17.3	32.3

Note: Gross output values and net output values shown in the table do not include output value of commune and brigade industry, and have been figured on the basis of 1970 constant prices.

2. Labor Productivity Rate. Development of agricultural production is determined not only by the total amount of labor invested in the production process, but also by the quantity (or output value) of farm products that a quantity of labor per unit of area is able to produce, i.e., the labor productivity rate. Because it is impossible in actual work to make a breakdown of working time, and difficult to calculate total amount of labor consumed, generally only the living labor productivity rate can be calculated. On the basis of extent statistical data, there is no way to separate the number of work days devoted to industry and the number of work days devoted to agriculture. For convenience in calculations, we used the indicators of output value, net output value and grain produced in a year per unit of agricultural labor, i.e., the "man year" indicator. Use of the indicator of net labor productivity rate holds extremely real significance for rational use of embodied labor and living labor, particularly in increasing the living labor productivity rate. During the past 3 years, Jiangsu's surplus agricultural labor has been further

shifted to commune and brigade industries, so the total amount of the labor force invested in collective agriculture (including forestry, livestock raising, sideline occupation and fisheries) has gradually declined. Comparison of 1981 with 1978 shows a 10 percent decline. As a result of implementation of the party's various rural economic policies and the increasing upsurge in the enthusiasm of producers, the labor productivity rate has strikingly increased. Weighted average calculations show an annual increase during the past 3 years as compared with the previous 3 years of 22.8 percent, 14 percent, and 16.9 percent respectively in output value, net output value, and grain production per unit of agricultural labor. That the rate of increase in output value per "man year" is higher than the rate of increase in net output value per "man year" shows that simultaneous with the increase in the living labor productivity rate during the past 3 years has been a greater investment of embodied labor.

	Agricultural Labor Productivity Rate		Agricultural Worker Net Output Rate, Net Output Value Per Worker (Yuan)
	Output Value Per Worker (Yuan)	Grain Output Per Worker (Jin)	
1976-1978 weighted average	446	2,055	295
1979-1981 weighted average	549	2,403	337
Rate of increase (%)	22.8	16.9	14.0

3. Funds Productivity Rate. As with other sectors of the national economy, the labor expended in the process of agricultural production is compensated by funds, and funds are an expression of the past value of labor. Therefore, the fund productivity rate indicator can reflect in an overall way the economic effectiveness of labor expenditure and funds expenditure. The reciprocal of the product rate for funds expended, i.e., cost per unit of product, is an overall indicator that is particularly widely used. However, since the fiscal statistical system currently in use in the country's rural communes and production brigades calculates only material expenses and does not calculate cost of completed goods, and does not calculate depreciation expenses on fixed assets in figuring the costs of materials, therefore, in judging effectiveness of funds utilization, only available data could be used to proceed from realities as they existed, with the selection of the indicator of net earnings per 100 yuan of production expenses invested. Calculations based on weighted averages show that the Jiangsu Province during the past 3 years effectiveness from the investment of each 100 yuan of production expenses was generally the same as for the previous 3 years, with just a slight decline, and very much lower than the all-time high level of 1957. This shows that in the process of agricultural production in Jiangsu Province, loss and waste of embodied labor continues very great, and that the speed of increase in net earnings cannot keep up with the speed of increase of embodied labor invested. However, looked at in other terms, despite the decline in effectiveness from investment

in agricultural production, as a result of the fuller and more equitable use of land and labor plus the increase in prices paid for agricultural products, net earnings from agriculture in the province during the past 3 years have averaged a 32.3 percent increase in absolute figures, which was no small rate of increase. Increase in the net income absolute figure provided the funds for expanding reproduction and for increasing peasant income, and increased the economic strength of communes and brigades.

	Average Annual Net Income (100 Million Yuan)	Average Weighted Net Income Per 100 Yuan of Production Expenses (Yuan)
1976-1978	47.1	154
1979-1981	62.3	152
1957	17.9	252
Percent Increase (+) or Decrease (-) Following Readjustment vs. Before Readjustment	+32.3	-1.3
Percent Increase (+) or Decrease (-) Following Readjustment vs. Before Readjus5ment	+246.1	-38.8

4. Agricultural Product Commodity Rate. Aside from satisfying peasant self-sufficiency needs, agricultural production also satisfies national economic development needs. Economic effectiveness of an area's social production may be measured by how well it satisfies society. The degree of which it satisfies society is determined by the quantity of agricultural commodities it is able to supply and by the commodity rate. Since the composition of agricultural production varies from place to place, the quantity of several kinds of agricultural commodities cannot completely portray the degree to which an area has become a commodity producer. For this reason, we based our measurements on actual commune and brigade earnings from the sale of agricultural products as a proportion of total earnings and the amount of commodities such as grain, cotton, oil-bearing crops, hogs, and silkworn cocoons provided by each member of the agricultural population. During the past 3 years, with the readjustment of the structure of agricultural production the province has made the most of its advantages in producing grain, cotton, oil-bearing crops, hogs, and silkworm cocoons. Output of oil-bearing crops has developed rapidly, an all around increase has occurred in the commodity output of principal agricultural products; the commodity rate has risen correspondingly, and the ratio of average annual income from commodities rose 5 percent over the average for the previous 3 years.

		Amount of Commodities Provided For Member of Agricultural Population				
	Ratio of Commodity Earnings to Gross Earnings (%)	Grain (Jin)	Cotton (Jin)	Oil (Jin)	Hogs (Jin)	Cocoons (Jin)
1976-1978	35.1	173	16.4	2.1	0.20	1.1
1979-1981	38.7	211	19.2	3.3	0.35	1.4
Percent of Increase or Decrease after Readjustment vs. Before Readjustment	+10.2	+22	+17.1	+57.1	+75	+27.3

Peasant Benefits Rate. Whether the peasants increase output and earnings is a major aspect of the economic effectiveness of agricultural production. Greater material benefits from production for the peasants is one of the goals of increased economic effectiveness of agricultural production. Thus, the level of peasant earnings is a major indicator for measuring an area's economic effectiveness in agricultural production. As a result of all around growth of agricultural production in the province during the past 3 years, plus state increases in procurement prices for agricultural products, commune member cash and grain ration distributions from the collective have increased fairly rapidly. In 1981 total amount of distributions to commune members were up 29.4 percent from 1978 for an annual incremental increase of 9 percent. Thanks to the correct handling of the proportional relationship between accumulation and consumption, commune member distributions as a ratio of total earnings increased during the past 3 years from the 47.5 percent of the 3 previous years to 48.3 percent. Peasant earnings derived from private plots and household sideline occupations increased most rapidly, and actual earnings levels were about 50 percent higher than the level of collective distributions. Peasant consumption goods purchasing power also increased remarkably. Average per capita consumption goods purchasing power increased by 62.7 percent in 1980 as compared with 1978.

	Commune Member Distributions as a Percentage of Total Earnings	Collective Distributions (Yuan per Person)	Grain Ration Distributions (Jin per Person)	Average Per Capita Consumption Goods Purchasing Power (Yuan per Person)
1976	47.3	79	456	*
1977	46.8	75	431	67.4
1978	48.3	94	462	77.7
1979	47.4	110	488	104.2
1980	46.0	106	476	126.4
1981	50.5	130		*

Note: * means statistical data lacking

To summarize the foregoing, economic effectiveness of agriculture in Jiangsu Province during readjustment has been good in an overall sense. Land productivity rate, labor productivity rate, agricultural product commodity rate, and peasant benefit rate have all increased.

Take the land productivity rate, for example. On the basis of the situation in Jiangsu Province where land is scarce relative to population, development of agricultural production requires even greater emphasis on intensive farming. Increase in land productivity rate means increase in the level of intensivity of farming. First must be further equitable use of existing cultivated land. In some medium yield and low yield farmlands in central and northern prefectures in Jiangsu, despite fairly substantial increases in output during recent years, a great potential still remains. Increase in yields from the fields of southern Jiangsu can be done through diligent summarization of experience and through perseverance in high yields from multiple cropping. Resumption of a rise in output there is entirely possible. Second is the need for full use of water surface resources. For the existing 5.4 million mu of water surfaces, all that is needed is further implementation of policies on water surface ownership and use rights and the province's output of aquatic products will be able to increase greatly within a short period of time for fine economic benefits. It is also necessary to strictly control illegal taking over of cultivated land. Strict procedures of examination and approval must be used for both the requisitioning of land and urban and town enterprises and for the building of buildings by commune and brigade enterprises or commune members to bring to a halt the unbridled taking over of land and use of land.

A look at the labor productivity rate shows that during the past few years, thanks to the shift of some excess rural workforces to industrial sideline production, the labor productivity rate has definitely increased. However, there is still a surplus of agricultural labor. For the province as a whole, the agricultural workforce is responsible for an average of about 4 mu of cultivated land per capita, but under prevailing conditions, each member of the workforce could be responsible for 6 mu of cultivated land. Extrapolation produces a surplus labor force of about 5 million for the province as a whole. If the labor productivity rate is to be further increased, it will be necessary to resolve further the problem of a transfer of surplus workforces. On the basis of experiences for the past several years, only when the thinking of leaders is clear and organization done well for the continued, planned, local shifting of surplus labor into economic diversification and into service trades can the labor productivity rate and agricultural products commodity rate be further raised and the peasants able to gain greater material benefits.

During readjustment, the agricultural funds productivity rate not only did not increase, but rather declined 1.3 percent as compared with the previous 3 years, and by 38.8 percent as compared with 1957. According to a survey of 57 production teams in six counties carried out by departments concerned, in 1979 losses incurred from failure to assure proper use of materials of various kinds used in agriculture and from unreasonable expenditures for entertaining ran at 6 percent for an average of 904 yuan per production team. A general increase occurred in material expenditures per mu of grain fields throughout the province. Figured on the basis of area sown to grain, quantity of seeds used in 1957 was 14.2 jin per mu; in 1965, 25.5 jin per mu; and in 1979, 44 jin per mu. Quantity of fertilizer used on cultivated land was 2.8 jin per mu in 1975, 18.8 jin per mu in 1965, and 133.8 jin per mu in 1979. Quantity of pesticide used on cultivated land was 0.2 jin per mu in 1957, 1.8 jin per mu in 1965, and 5.7 jin per mu in 1979.

In short, the key to increase in the economic effectiveness of agriculture in a region lies in all around development and comprehensive operations so that the structure of the rural economy will become rationalized. In addition, it is necessary to give attention to improving management of agricultural enterprises, being careful about economic accounting, and conserving expenditures of materials and labor. This is a weak link in Jiangsu Province's agricultural production and the place of emphasis in current efforts to increase the economic effectiveness of agriculture.

3. Several Problems Existing in Measuring Economic Effectiveness of an Area's Agriculture

1. Agricultural production is a combination of natural reproduction and economic reproduction. The essence of the natural reproductive process in agriculture is the transformation of energy and the material cycle between biological organisms and the external environment. In the process of agricultural production, investment of energy and materials must be done in accordance with natural laws and with adoption of proper techniques. This entails the constant maintenance of a balance in the exchange of materials and energy in the production process as the only way in which the amount of output of living things can become greater and greater, forming a benevolent cycle in nature. This requires maintenance of ecological balance. Conversely, if for the sake of immediate benefit people do things that overtax nature's ability to automatically revive and regulate, and that interfere with the normal functioning of the material cycle and energy transformation, in the end this will lead to decline in the quantity of living things, and the structure and function of the ecological system will become imbalanced. Consequently in examining the economic effectiveness of agriculture, one cannot simply look at a single year, but rather at 3 years, 5 years, or a longer period of time. Even more important is the need to study how to use specific indicators to analyze the ecological balance.

2. The process of economic reproduction in agriculture is a social production process repeatedly carried out by people in conjunction with certain production methods through joint work and exchange of work. In the process of economic reproduction, the material cycle and energy transformation change into exchange of social products, i.e., to be replaced by an exchange of the quantities of labor congealed in products to form a repetitive cycle containing the four links of production, distribution, exchange, and consumption. If any of the links of the economic reproduction process become blocked making impossible for a long period of time an exchange between quantities of labor, or a comparatively long imbalance between the agricultural economic sector and key elements, this will lead finally to atrophy and withering of the agricultural economy and to collapse of national economy. Consequently, to examine

effectiveness of the agricultural economy through analysis of only a single production link is not enough. An all around analysis of the four links of production, distribution, exchange, and consumption and their interrelationships is necessary. This problem awaits study for solution.

3. Accompanying development of production and readjustment of policies has been the appearance of many layers in the structure of the rural economy. Take the structure of production, for example. There is a production structure for grain and economic crops, a production structure for farming, forestry, livestock raising, sideline production, and fisheries, and a production structure for agricultural sideline industries. A look at the structure of ownership shows that although the collective economy is still dominant, the ratio of the household economy is steadily expanding. State-owned farms also have their own important position. Therefore, in examining the effectiveness of the agricultural economy, it is necessary to make a comprehensive analysis of farming, of agriculture, forestry, livestock raising, sideline occupations, and fisheries, and of agricultural sideline industries. It is also necessary to make a comprehensive analysis of the state-owned economy, the collective economy, and the household economy. Analysis of only a single aspect cannot reflect the overall situation of the actual economy. Statistical data is currently not complete in this regard, and specifications for making calculations not unified. This increases difficulties in making an all around and comprehensive analysis of agricultural economic effectiveness, and this requires accurate study and solution.

4. The agricultural economy is a major integral part of the national economy. Development of agriculture was to be done in accordance with socialist planned proportional economic laws; it must accurately handle the relationships among the country, the collective, and individuals, and take concurrent account of the interests of all three rather than be concerned with the interests of one. Today it is necessary to emphasize planned management of the country and to establish as an overall concept a mentality of "the entire country as a chessboard." Consequently, in examining agricultural economic effectiveness, one has to look at only an effectiveness of the micro-economy but even more so at the effectiveness of the macro-economy, and to unify the two. Under ordinary circumstances, the economic effectiveness of an area and the economic effectiveness of society are synonymous, but sometimes contradictions may occur. This becomes a question of who submits to whom. Without doubt the economic benefits of an area have to be subordinate to the economic benefit of the society at large. The problem requiring solution now is to find a unified method of evaluation and unified criteria for evaluation.

9432
CSO: 4007/564

WAYS TO GROW LEANER HOGS EXPLAINED

Nanjing XINHUA RIBAO in Chinese 8 Aug 82 p 2

[Article: "Ways to Increase Live Hog Lean Meat Rate"]

> [Text] Editor's Note: After page 2 of the 30 May edition of this newspaper carried the news of Provincial Food Company experiments in "How To Make Hogs Grow More Lean Pork," many letters were received from readers asking for specific methods to make hogs grow more lean pork. In this connection, we have asked Comrade Chen Hongzhao [7115 7703 6856], doctor of veterinary medicine of the Animal Husbandry Bureau of the Provincial Department of Agriculture and Forestry, to provide a briefing.

A high or a low lean pork rate in live hogs results from the mutual role of internal and external factors. The major internal factor is the genetic traits of the breed. Because the genetic trait for lean pork rate is fairly strong, it is controlled by additive genes, so only by increasing the lean pork rate and purity of the hybrid parent pair is it possible to increase rapidly the lean meat rate in succeeding hybrid generations. Consequently, selective breeding to purify sows of local superior hog breeds in planned establishment of a lean pork line seems to be particularly important. However, increasing lean pork within a short period of time can be done at present only through economic hybrid methods with vigorous promotion of lean pork type hog hybridization for use. Hog breeds in Jiangsu Province are the fairly late maturing Huai hogs (including mountain hogs, kitchen hogs, and old Huai hogs) with a fairly high lean pork rate. Therefore, the crossing of Huai hogs with superior lean pork type boars should yield a 52 percent lean pork rate in their posterity. Moreover, because of their high fecundity rate and well known early maturation, Lake Tai hogs should achieve this level rapidly. It is necessary to run a ternary cross using "two foreign and one indigenous" breed of hog, i.e., use of a first generation hybrid sow resulting from the breeding of a local breed of sow with a foreign breed of boar for breeding with yet another breed of boar.

In considering external factors for improving the lean pork rate, most important is improving livestock feed, feeding techniques, and the right time for slaughtering. The element in livestock feed that most affects the lean pork rate is the protein level. Hog growth and development follows definite laws, and physiological properties such as bone, skin, flesh, and fatty tissues are differently balanced at different stages of growth and development. In the course of a long period of production experience, the Chinese people have summarized from experiences the laws of hog fattening as follows: "Small pigs grow bones; medium size pigs grow skin, large pigs grow meat; and fat pigs grow lard." Generally speaking from 3 to 6 months of age, the muscles grow most quickly. The main constituent of lean meat is protein; consequently, if full nutrients are given at this time, particularly compound feeds with a 70 percent coarse protein content, increase in the lean pork rate will benefit. During the large stage of fattened hog growth, limited feeding should be done, by which is meant restricting the energy concentration of feed and restricting the quantity fed to control nutrient density. This entails reducing the energy level of each kilogram of feed to about 2,800 kilocalories. The way of doing this is much feeding of green feeds to increase the proportion of ruffage. Limiting the amount of feeding entails reducing to 85 percent the amount of feed given in each feeding. This method of giving different levels of nutrients at different stages on the basis of the laws of hog growth and development, taking full advantage of lean pork growth heterosis, and controlling growth of fat meat, together with slaughtering at the right time are the only ways in which to increase the lean pork rate more rapidly.

In view of the specific circumstances of Jiangsu Province, in order to produce more lean pork, the following technical problems have to be solved:

1. Need for improvement in quality of dressed carcasses of all local hog breeds with increase in the lean pork rate being the main objective. Launching of experiments in the economic hybridization of combinations of lean pork type hogs, and use of economic hybridization (binary or ternary hybridization) for selection of the finest hybrid combinations that put on weight fast, consume little feed, and have both a high slaughter rate and high lean pork rate, and then establishing lean pork hog bases in suburbs to go into production rapidly.

2. Use of the province's superior breed breeding system to develop a specialized lean pork strain and to establish a breeding system for lean pork hogs. The genetic trait for a lean pork rate in hogs is a fairly strong one, and results derived from selective breeding are remarkable (the current degree of change in Jiangsu Province's lean pork rate for porkers being between 30 to 50 percent). There is a great difference in lean pork rate from one breed to another, and the individual variations between one animal and another within a breed are extremely striking, so this provides a good basis for our selection of lean pork type specialized strains. It also provides a foundation for future faster production of finer quality lean pork, and this is one of the basic measures for solving the problem of lean pork hog production.

3. Improvements in irrational feeding and care methods. An urgent problem of the moment is publicizing to the masses changes in feeding techniques so that the feeding of porkers with mixed concentrated feed is done during the early and mid periods of their growth, with limited feeding being done during

the last stages of hog growth. The emphasis on "fattening up" during the late stage of "building the frame" should be changed to increased feeding during the early and mid stages of hog growth and "withdrawal at the tail end," so that fattened hogs are not feed to exceed 200 jin.

4. Widening the source of supply of protein feeds. Jiangsu Province annually produces more than 1 billion jin of rapeseed cake and cottonseed cake, yet only about 13 percent of all of the "two cakes" are used for feed. Most of it is put on the fields for use as fertilizer, and this is a very great waste. When the cake residue from the pressing of oil is used as fertilizer, plants can use only 50 percent of its nitrates. Were it to be used as a livestock feed first, the manure then being used on the fields, nitrate utilization might amount to 90 percent. Protein is the material foundation for the growth of lean pork. If 100 jin of seed cake residue is in the compound feed used to raise a lean pork hog, requirements for growing lean pork will be substantially satisfied.

9432
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BRIEFS

JIANGXI COUNTY GRAIN--From 1979 to 1981 Jiangxi's Yongxiu County delivered to the state 133.6 million jin of grain in excess of quota. This year it produced 115 million jin of early rice, setting new records in total output and per-mu yield. In 1981 total agricultural output value was 48 million yuan and revenues from diversified economy reached 17 million yuan. Per capita income of rural population rose to 108 yuan last year. The county has procured more than 50 million jin of early rice. [Text] [Nanchang JIANGXI Provincial Service in Mandarin 1100 GMT 9 Sep 82]

CSO: 4007/2

'LIAONING RADIO' ON MISUNDERSTANDING OF RESPONSIBILITY SYSTEMS

SK210517 Shenyang LIAONING Provincial Service in Mandarin 1100 GMT 20 Sep 82

[Station commentary: "Correctly Understand the Responsibility System of Signing Contracts with Households or Groups for Specialized Production and the Responsibility System of Letting Households or Specialized Groups Assume Full Responsibility for Farm Work"]

[Excerpt] In places where the responsibility system of signing contracts with households or groups for specialized production and the system of letting households or groups assume full responsibility for farm work are implemented, not only have commune members received benefits and asked for stabilizing and improving the systems, but also some cadres who went to the realities of life have clearly seen the advantages. Some comrades have put it well that the systems have boosted the enthusiasm of laborers and successfully displayed the superiority of the collective economy, and that they can promote both grain production and a diversified economy and can satisfy the needs of the livelihood of commune members and enable them to concentrate their efforts on the production of commodities.

Then, why is it necessary to call for correct understanding of the systems? First, because there are still some people who do not clearly understand or even have a bias against them. Some comrades always think that the systems mean retrogression and are not necessary in large, sparsely populated areas where the collective economy is substantially developed.

People with such an understanding should go to where the systems are enforced to see if peasants are really dividing up the land for individual farming or are taking the road back. If they earnestly investigate and study, it is not difficult for them to discover the essence of the issue. The systems are established on the basis that the major means of production belong to the collective. They are production responsibility systems allowing peasant households to do farm work individually and to take responsibility for their own profits and losses. They are contract systems under which unified management is conducted. Although labor organizations at all levels are divided and become smaller under the systems, commune members' material benefits are reflected more directly in the systems and their production enthusiasm is further aroused. The systems are a great leap forward in terms of development of production forces. They are far better than the equalitarian way of managing farm work. Despite serious drought this year, commune members who work under the systems combat the drought from dawn till dusk. They manage the lands, forests and orchards assigned to them as diligently as they do their private plots. This is a very good proof. Besides, we have only 2 or 3 years of experience in implementing the systems. The potential of the systems has not been fully displayed in this short period and our understanding of them is yet to be deepened.

Second, because some comrades often attribute current problems in rural areas--such as some commune members refusing to plant in accordance with state plans, some damaging collective property and natural resources and collective leadership being weakened--to the wrong causes.

These problems are objective existence. However, their existence is not the essence and main stream of current rural situation, nor the inevitable result of the systems. The resolution of these problems depends on nothing else than our efforts to educate commune members often on the consistency of the interests of the state, the collective and the individual and to imbue them often with communist ideas. [passage omitted]

CSO: 4007/2

BRIEFS

NEI MONGGOL COLD WAVE--According to the report of the Nei Monggol Autonomous Regional Meteorological Station, a cold wave from Central Siberia arrived at the northern areas of the region on the morning of 3 September. Thus, most areas in northern and eastern Nei Monggol will have sustained low temperatures in the days to come. On the morning of 9 September, most areas in Xilin Gol League, northern areas in Ju Ud League, northern areas in Jirem League, northern areas in Ulanqab League and northern areas in Bayannur League will have a frost; and southern areas in Jirem, Ju Ud and Ulanqab Leagues and eastern areas in Ih Ju League will have a light frost. [Text] [SK110731 Hohhot NEI MONGGOL Regional Service in Mandarin 1100 GMT 8 Sep 82]

NEI MONGGOL GRAIN OUTPUT--In the past, owing to the overconcentration of grain production and excessive reliance on the unitary way of operation, the ecological balance in Nei Monggol Region's Jirem League was destroyed and grain production developed slowly. After readjusting the agricultural structure and building many commodity grain bases since the 3d Plenary Session of the 11th Party Central Committee, the league's agriculture, animal husbandry and forestry have been developed in coordination. In 1981 the league hit records in production of grain, oil-bearing crops and sugar. Total grain output reached 2.2 billion jin, up 32.5 percent over 1977. Output of oil-bearing crops, increased 70 million jin, almost quadruple the 1977 figure. Commodity grain sold to the state totalled 530 million jin, topping the previous records. According to a tentative plan, in 1985, commodity grain bases in the league should build 4 million mu of fields with high and stable yield. Per-mu yield should average 400 jin. Total output should reach 1.6 billion jin and 600 million jin should be marketed to the state. [Text] [Hohhot NEI MONGGOL Regional Service in Mandarin 1100 GMT 7 Sep 82]

CSO: 4007/2

IMPORTANCE OF INCREASING REGION'S GROUND COVER STRESSED

Yinchuan NINGXIA RIBAO in Chinese 5 Aug 82 p 2

[Article by Ge Zhenhe [2047 2182 0678]: "Planting of Trees, Grass, and Bushes Is the Region's Most Important Agricultural Capital Construction"]

[Text] When the forest area of any country or any region amounts to 30 percent or more of total area and is evenly distributed, it can function in regulating climate, conserving water, holding back winds and stabilizing sand, conserving soil, purifying the air, and protecting the environment. It is a lever and a pivot for various ecological systems and the foundation for agricultural and livestock industry production.

Forests are an overall system composed of trees, bushes, and ground covers, the trees, bushes, and grasses having an inseparable inherent connection. However, each possesses its own charachteristics, and in the maintenance of ecological balance and providing products, each plays a mutually irreplaceable role.

Trees with tall trunks and well developed branches form the main body of forests. They play a great protective role when mature, and their economic benefits are high. Each hectare of broadleaf forest transpires as much as 2,400 to 2,800 tons of water in a growing season. This is 15 times the amount of evaporation from the same area of ocean, so the relative humidity of the air above a forested area increases by a general 7 percent. In some forest areas, average wind velocity is reduced by 20 to 40 percent and the frost-free period is increased by from 6 to 10 days. In addition, trees are the source of lumber for national construction and civilian use. However, trees have a long growing cycle and their environmental requirements are strict. If eroded areas are afforested with trees alone, it will be very difficult for them to play a role in breaking the wind and stabilizing sand and in conserving soil and water.

Though bushes and shrubs do not provide the useful material that trees provide, their production cycle is short; they are strongly resistant; and they present good prospects for growth even under harsh conditions. For example, feeder roots on sand willows [Salix gordejevii] number 60 to 100. One year's root growth for shandingzi [1472 0002 1311] is more than 800 meters long. Eight years growth of Caragana korshinskii will cover a

4 square meter area, will reduce by 73 percent sandy soil runoff, will reduce by 66 percent scouring of surface soil, and will restrain movement of 0.15 cubic meters of sand. Bushes and shrubs will generally grow in places in which the environment is harsh. Hedysarum scoparium, for example, is able to establish colonies on shifting sand; Chinese tamarisk can grow in heavily salinated soil with a 1 percent salt content; and Heci [7815 0459] frequently grows in swaths on deserts or rocks, and its roots have nodules. Chemical experiments have shown that the protein content of 1,000 jin of dried false indigo leaves is 23.7 kilograms, and the cruide fat content is 31 kilograms. Caragana microphylla is also rich in nutrients, and it makes a fine feed for livestock such as cattle, goats, and sheep. For this reason, people call shrubs "three dimensional prairies" or "grazing areas in the air." A single mu of bushes and shrubs is equal to 10 mu of grass. The branches and leaves of bushes and shrubs contains considerable amounts of nitrogen, phosphate, and potash, which are fine organic fertilizers.

Shrubs and bushes have an even greater advantage, namely their strong sprouting ability. When snipped to the ground, they are able to regenerate, and they live for as long as 70 or 80 years. Cut down once every 5 to 7 years, Hippophae ramnoides yields from 3,500 to 4,000 kilograms of firewood. This is of real value to southern mountain regions in the Ningxia-Hui Autonomous Region where fuel is in extremely short supply. In addition, many bushes have long, thing, and pliable branches, which make a fine raw material for plaiting. The dried branches of many bushes are strong and hard; they can be used to make paper, or to manufacture farm implements, furniture, and fiber board.

The multiple potential of bushes and shrubs has yet to be effectively utilized. Many bush and shrub seeds, for example, contain large amounts of fat; they are trees that are "sources of nectar." The fat content and the oily taste of aiyueyunzi [7093 2588 1926 1311] seeds, for example, rivals that of peanuts. The high oil content of the seeds of shiny-leaved yellowhorn [Xanthoceras sorbifolia] is well known to all. Mountain peaches and mountain apricot pits may be used for beverages, and they are also sources of supply for beverages made by food processing companies. Sichuan peppercorns may be pressed to yield oil and are a commonly used condiment. The parasitic saline cistanche [Cistanche salsa] and suoyang [3851 7122] on the fruit of Chinese wolfberry [Lycium chinense] and the roots of Baici [4101 5412] are rare medicinal herbs.

Herbaceous plants are small and weak, and people frequently underestimate their role and value. In fact, grass cover is also an integral part of the forest vegetation cover. Its stems and leaves grow luxuriantly; plants are dense; and the roots form a network, all of which plays a powerful role in keeping soil in place and improving the soil. For example, the granular structure of soil on which sweet clover has grown for a year may be increased by 20.6 percent, and within two years the soil's granual structure is twice as good as that of most farmland. Soil granules capable of holding water may amount to 3.0 percent of the total, and the rate of percolation in and out may increase 51 percent, runoff decline by 37.5 percent. and scouring of soil decline by 47.2 percent.

The following sentence may be used to explain experiences in establishing forest plant cover: "The trees rise to the heavens; the bushes fill empty space in the air; and alfalfa crawsl all over the top of the ground." Only when trees, bushes and shrubs, and grasses are used in combination can they function to advance and support the growth of each other.

The Ningxia-Hui Autonomous Region located on the northwest frontier lacks trees and forests. The forest cover rate is only 2.2 percent of the total land area, and the natural ecological system is extremely brittle. For long agricultural and livestock industry production have been held back by natural factors, and the life of the people is fairly hard. For this reason the planting of trees, grasses, shrubs and bushes is the region's most important agricultural capital construction. Only by undertaking capital construction of this kind can the region's agricultural economy genuinely make a new start.

The region has a complex topography, and the growing of a forest cover will require strict adherence to natural laws and economic laws. It will be necessary to carry out a program of adapting general methods to local situations, to build defenses against specific dangers, combine the planting of trees, bushes, shrubs, and grasses, and grow thm in strips, on tracts, and in networks to serve agricultural and livestock industry production and to serve the livelihood of the people.

The CCP Central Committee and the State Council have called upon the people throughout the country to increase the forest cover rate to 30 percent, making this a long term object of struggle in the building of socialism and in creating prosperity for posterity. Efforts should be made so that by the end of this century the country's forest cover rate will be 20 percent. For the Ningxia-Hui Autonomous Region this task will be most arduous, and the time is extremely short. We must prepare for the long haul while taking firm grip on the present; persevere in a scientific attitude, and strive to fulfill the strategic task of planting trees, grasses, shurbs and bushes so that the region will become a prosperous, burgeoining. and cultured one.

9432
CSO: 4007/559

SHANDONG

BRIEFS

SHANDONG RAINFALL--From 30 August to 3 September there was successive rainfall from the west to east across Shandong Province. There was a 30-80-mm rainfall in Laiocheng, Dezhou, Humin, Taian, Heze, Jinan and Zibo Prefectures and Municipalities, as well as in most areas of Linyi Prefecture, eastern areas of Jining Prefecture and western areas of Weifang Prefecture. There was a 15-30-mm rainfall in Zaozhuang and Qingdao Municipalities, western areas of Jining Prefecture, eastern areas of Weifang Prefecture, southeastern areas of Linyi Prefecture and in northwestern areas of Yantai Prefecture. There was a less than 10-mm rainfall in southern and eastern areas of Yantai Prefecture. There are 45 counties in the province that have had a rainfall of over 50-mm, 21 counties with a 30-50-mm rainfall and 49 counties with a rainfall of less than 30-mm. This rainfall greatly contributes to the growth of late-autumn crops. [Text] [SK040744 Jinan SHANDONG Provincial Service in Mandarin 2300 GMT 3 Sep 82]

CSO: 4007/2

BRIEFS

SHANGHAI SUBURBAN ECONOMIC GROWTH--At a meeting held on 10 September, (Yan Min), deputy head of the Shanghai Municipal Agricultural Commission, noted that the total value in agricultural, sideline and industrial production in Shanghai's suburbs rose from 1976's 2.61 billion yuan to 1981's 5.419 billion yuan and that the average income for each peasant rose from 1976's 174 yuan to 1981's 288 yuan. [Text] [Shanghai City Service in Mandarin 2300 GMT 10 Sep 82]

CSO: 4007/2

EASTERN SICHUAN FLOOD-FIGHTING EFFORT DESCRIBED

HK150727 Chengdu SICHUAN RIBAO in Chinese 6 Sep 82 p 3

[Report: "Responsible Person of Provincial Command for Fighting Floods and Drought Answers SICHUAN RIBAO Reporter's Questions on Flood-Fighting in Eastern Sichuan"]

[Text] Eastern Sichuan was hit by rainstorms from mid to late July this year. People throughout Sichuan Province have shown great concern for flood-fighting in this flood-stricken region. A responsible person of the provincial command for fighting floods and drought recently briefed a reporter of this paper on flood-fighting in the flood-stricken region.

Question: Can you tell me the extent of this year's rainstorms in eastern Sichuan?

Answer: Historical records show that the July-August period in eastern Sichuan has always been a dry period. However, from mid to late July this year, Daxian, Wanxian and Fuling Prefectures were hit by rainstorms and catastrophic torrential rains three times in succession. Generally speaking, the rainfall ranged from 400-600 millimeters during this period. Yuelai Commune in Shizhu County received the heaviest rainfall, amounting to 913 millimeters. As to the intensity of the rainfall, we can see that during this period, the heaviest hourly rainfall reached 100 millimeters and the heaviest daily rainfall reached 411 millimeters. These are very rare figures for this region.

This first rainstorms occurred from 15-18 July and primarily hit Tongjiang, Wanyuan, Xuanhan, Kaijiang, Daxian, Kaixian, Wanxian, Liangping, Yunyang, Zhongxian and Shizhu Counties and Municipalities. This was followed by more rainstorms and catastrophic torrential rains from 19-24 July and 26-29 July. The third rainstorms, which occurred from 26-29 July, covered a large area as compared with the first and second rainstorms. More than 190,000 square kilometers of land were hit by the third rainstorms. As a result, the daily rainfall in 25 counties (stations) [Zhan 4541] ranged from 100-279 millimeters. As a result of continuous rainstorms and catastrophic torrential rains, torrents of water rushed down the mountains, the rivers overflowed their banks and large areas of eroding hills, cave-ins and land slips were created. According to a preliminary investigation, there are more than 10 eroding hills, cave-ins and mud slips in the 3 prefectures.

Question: What are the conditions of those areas in eastern Sichuan which have been hit by the natural adversity this year?

Answer: Prior to the arrival of the rainstorms, meteorological departments had timely forecast the rainfall; all areas fully mobilized the masses to make many preparations against floods, and the masses and goods and materials in areas liable to be flooded were transferred to other areas without delay, thus reducing losses. Because the rainstorms broke with tremendous force and intensity and lasted a long period of time, they still caused great losses in people's lives and property; a total of 30 counties and municipalities in Daxian, Wanxian and Fuling Prefectures were hit by the natural adversity. A total of 22 counties (municipalities) in the 3 prefectures were severely hit by the natural adversity. They are: Wanxian Prefecture's Wanxian Municipality, Wanxian, Kaixian, Yunyang, Liangping, Zhongxian, Chengkou, Fengjie, and Wuxi; Daxian Prefecture's Daxian, Daxian Municipality, Xuanhan, Kaijiang, Pingchang, Quxian and Wanyuan; and Fuling Prefecture's Shizhu, Qianjiang, Fengdu, Dianjiang, Pengshui and Wulong. A total of 13 county towns, namely, Xuanhan, Dixian Municipality, Kaijiang, Daxian, Quxian, Wanyuan, Kaixian, Wuxi, Shizhu, Dianjiang, Fengdu, Pengshui and Qianjiang, and 184 farms and townships either suffered waterlogging or were submerged. The Shizhu County town was submerged three times. During the third submergence, the average depth of water was 1.5 meters; with the exception of a highland where the county CPC committee, the county people's government and the county people's armed forces department were situated. All other parts of the county town were submerged. The county towns of Daxian, Xuanhan, Quxian, Kaijiang and Kaixian were all submerged twice and suffered great losses. In the three prefectures, there are more than 6.23 million victims of the natural calamity, more than 210,000 people are homeless, more than 240,000 houses either collapsed or were washed away by the flood; over 7 million mu of farmland were hit by the natural calamity, 630,000 mu of cultivated land were destroyed by the flood, over 34 million jin of grain of the state and commune members and more than 20,000 domestic animals were washed away by the flood. The flood also destroyed 12,000 embankments, warehouses and weirs, 1,501 kilometers of irrigation ditches, over 300 hydroelectric power stations and nearly 1,000 highway bridges. The big land slip in Yunyang County's Baota Commune is 3 kilometers long and over 1 kilometer wide. Due to the flood, the houses, food stations, breeding farms, retail shops, district hospitals, commune clinics and cold storages belonging to 400 commune households and 29 production teams slipped away through the land slip and some of them slipped into the Changjiang River. Due to the emergence of a big land slip in Zhong County's Shaoxi Commune, 6 brigades and 24 production teams suffered the following losses: nearly 2,000 mu of farmland were damaged; 758 houses belonging to 244 households were destroyed, thus making 1,114 people homeless. In the fourth Tuoxiang Brigade, Hujia Commune, Yuexi District, Kai County, more than 300 mu of land subsided; and 310 houses owned by a commune unit, a supply and marketing cooperative, 10 units and 16 commune households all subsided. It is true that the scale of this year's flood in eastern Sichuan was smaller than the large-scale flood in the province last year. However, as far as eastern Sichuan is concerned, this year's flood has created very serious conditions.

Question: What kind of flood-fighting tasks have been carried out and what achievements have been scored by the flood-stricken region? What is the current situation?

Answer: You have recently issued separate reports on the flood-fighting work in the three prefectures. In short, following the emergency of this flood, the stricken region's party committees and government at all levels quickly adopted effective measures in leading the struggle against the flood. Responsible comrades of party committees and governments at all levels promptly hurried to the flood-fighting front, and directed and organized work of saving the flood-stricken masses, the goods and materials of the state and the masses' property. PLA commanders and fighters also actively participated in the flood-fighting struggle, thus promptly saving many people who were beseiged by the flood. Party committees and governments at all levels promptly sent powerful work teams to the flood-stricken areas to help promote work there. In line with the principle of self-reliance and the principle of offering mutual help among the masses and collectives with the support of the state, they organized and mobilized the masses to quickly carry out the struggle to provide for and help oneself by engaging in production and to rebuild their villages and towns. At present, proper arrangements have been basically made for the livelihood of severely afflicted households, flooded crops have been salvaged, field management has been strengthened and some late-autumn crops have been planted. The great majority of flood-stricken factories, mines, enterprises and shops have restored production and resumed business.

All areas have adopted measures to readjust the economic policy toward severely afflicted communes and brigades and have mobilized the masses' enthusiasm for flood-fighting and for providing for and helping themselves. For example, Xuanhan County, the most severely afflicted county in Daxian Prefecture, has reclaimed and restored more than 22,000 mu of cultivated land which are all sown to sweet potatoes, taros, vegetables and other late-autumn crops.

Question: What measures have been adopted by the provincial authorities to assist the people of the eastern Sichuan's flooded areas in restoring production and rebuilding their villages and towns?

Answer: The provincial CPC committee and the provincial people's government have attached major importance to the flood in eastern Sichuan. On behalf of the provincial CPC committee and the provincial government, Provincial CPC Committee Secretary Yang Rudai and Provincial Vice Governor Liu Haiquan went to the flood-stricken areas to express sympathy and solicitude for the people there and to direct the flood-fighting work. Moreover, the provincial CPC committee and the provincial government sent three groups to the flood-stricken areas to express sympathy and solicitude for the people there and to assist them in their flood-fighting. They also held several meetings of responsible comrades of provincial organs, mobilized all departments to tap the potentials of goods and materials and financial potentials, tried in every possible way to help the flood-stricken areas, and allocated a lot of chemical fertilizers, steel products, cement, gasoline, diesel oil, kerosene and relief funds to the flood-stricken areas. Moreover, the provincial agricultural bank promptly granted subsistence loans to victims of the flood. At present, some goods and materials are still being allocated and transported to the flood-stricken areas. The loving care shown by the provincial CPC committee and the provincial people's government is a great inspiration to people of the flood-stricken areas.

Under the leadership of party committees and governments at all levels, people in the flood-stricken areas have bravely waged an arduous struggle for more than a month and have scored initial achievements in flood-fighting. In today's flood-stricken areas, the masses are in a stable mood, prices remain stable, public order is fine, and the fervent upsurge in providing for and helping oneself by engaging in production is in the making. They have this fighting slogan: Flood-free areas try in every possible way to achieve a greater production output; areas hit by minor floods try in every possible way to realize a production increase; areas hit by severe floods try in every possible way to reduce losses to the slightest degree; and great the victorious opening of the 12th CPC National Congress with achievements in fighting floods and reaping bumper harvest.

CSO: 4007/2

'SICHUAN RIBAO' ON ENRICHING RURAL AREAS

HK241056 Chengdu SICHUAN Provincial Service in Mandarin 0030 GMT 24 Sep 82

[Excerpts of SICHUAN RIBAO commentator's article: "Get Mobilized and Create a Situation of Going from Poverty to Affluence"]

[Text] SICHUAN RIBAO 24 September carried a commentator's article entitled "Get Mobilized and Create a Situation of Going from Poverty to Affluence" on how to enrich the rural areas in Sichuan as soon as possible.

The article said: The 12th Party Congress has taught us to strive for creating a new situation in all fields of socialist modernization. The great goal put forth by the congress concerning economic construction is to strive to redouble the gross national industrial and agricultural output in the 20 years from 1981 to the turn of the century, under the premise of incesantly improving economic returns. In a short time to come, in accordance with the actual situation of our province's agricultural front, we must realize the target of struggle formulated by the provincial CPC committee. In the next 5 years we must strive to increase the total grain output by an average of 2-3 billion jin each year and the per capita income of people in the rural areas by 20-30 yuan. We must increase the province's total grain output to 80 billion jin and the per capita income of rural inhabitants to 200, 300 and 400 yuan, respectively, in one-third of the production teams. In the next several years to come, rural party organizations at all levels must comprehensively implement the spirit of the 12th Party Congress, do a better job of ideological and political work, and mobilize the masses to proceed from poverty to affluence, thus laying a solid foundation for realizing the strategic goal of economic development in the coming 20 years.

The commentator's article said: The provincial CPC committee work meeting held in June decided to accelerate the goal and measures for enriching the rural areas in our province. The decision by the provincial CPC completely complies with the strategic decision made by the 12th Party Congress concerning economic construction for 20 years and is an important step in implementing the national decision in our province.

Whether or not the realization of the target of struggle for the next 5 years, decided upon by the provincial CPC committee, can be accelerated is an important question which must be answered in ideological and political work in the rural areas. During the past several years, agricultural development in our province has been relatively fast and the rural situation has become more promising. However, the understanding of certain grassroots cadres is still backward. Ideologically speaking, they do not quite understand the new situation after implementing the production responsibility system, and some of their work is not on the right track. In addition, they do not have an adequate understanding of the role of the great readjustments such as the readjustment of production relations. Thus, it is necessary to help them correctly understand, by means of ideological and political education, the relationship between realizing the targets of struggle for a fixed time to come and the target of carrying out economic construction for 20 years. We must make them understand that by probing in many ways into the past 20 years since agricultural collectivization, we have finally worked out the production responsibility system, agricultural management and methods of distribution which on the one hand adhere to the socialist path, and on the other hand, suit the level of development of the productive forces and the level of awareness of the peasants. As the central leading comrades pointed out, the rural situation of implementing the production responsibility system is very promising and is in the ascendant.

Recently, the provincial CPC committee introduced 20 examples of increased production in bringing about affluence in rural areas in the northern part of Sichuan. These are persuasive examples of the implementation of the production responsibility system, emancipating the productive force and giving play to the initiative of the collective and the individual.

The commentator's article also pointed out: In order to guarantee the realization of the target of struggle put forth by the provincial CPC committee, we must still continue to encourage certain peasants to take [words indistinct] into consideration and strive to enrich by relying on the collective and on labor, thus benefitting both the collective and the individual. Simultaneously, we must still vigorously popularize the policy of "three considerations," popularize the principle of taking planned economy as the key and market regulation as the supplementary, and educate the peasants to be concerned with the interest of the state and the collective, thus properly handling the relationship between the interest of the state, the collective and the individual.

The commentator's article stressed: At present, it is necessary to strengthen education in the "two no-changes" and help the grassroots cadres, on the basis of summing up the experiences of the masses, gradually perfect the agricultural [words indistinct].

In conclusion, the SICHUAN RIBAO commentator's article said: Carrying out ideological and political work in the rural areas, we must firmly grasp the building of socialist civilization focusing on communist ideology, enabling the broad masses of commune members to proceed along the socialist path and become true [words indistinct] and socialist peasants who have cultural cultivation and who observe discipline.

CSO: 4007/2

NEED FOR LONG RANGE PLANNING STRESSED

Chengdu SICHUAN RIBAO in Chinese 16 Jul 82 pp 1,2

[Article by Commentator: "Do a Good Job of Longrange Planning for Rural Construction"]

[Text] Development of the rural economy and hastening the construction of mountain regions requires accurate programs, policies, and measures; it also requires formulation of longrange construction plans. The recently convened Provincial CCP Committee work conference required all jurisdictions to come up with well defined 5 to 10 year targets to be achieved in rural economic and social development to give the masses something to strive for.

As long ago as the 1950's Comrade Mao Zedong personally presided over the formulation of long range plans such as an outline for national agricultural development. He said: "This plan is useful as a longrange objective so that people's vision will not be limited to the steps they are taking at a particular moment." Today we have both central government programs and plans, society is stable; people have many ideas, and what is urgently needed is a clear and fairly longrange concrete target toward which the masses may be mobilized for struggle. The Provincial CCP Committee has proposed that for the next 5 years Sichuan Province should achieve an annual average increase in total grain output of from 2 to 3 billion jin, and that rural commune member income (including income from collective distributions, wages from commune and brigade enterprises and income from rebates, and net income from household sideline occupations) should average annual increase of 20 to 30 yuan so that after 5 years of effort, the province's total grain production will stand at 80 billion jin, and average per capita commune member earnings as derived from the three aforementioned sources in a production team will be 200 yuan, 300 yuan, and 400 yuan, with the next step being to strive for a national production gross output value averaging $1,000 per capita. These several major economic norms collectively reflect the level of rural economic development. Naturally, our goal is to build flourishing, prosperous, democratic and civilized new socialist rural villages. The content of longrange planning has to be somewhat all encompassing and the building of the two civilizations [material and spiritual civilization] has to be considered part of it. The Provincial CCP Committee's raising of such an objective is extraordinarily necessary, and it constitutes an extremely great encouragement for the cadres and masses of the entire province. We realize that during the past several years many places, communes, and production brigades have made plans and that after 3 to 5 years of effort, production has developed very rapidly and the livelihood of the masses has improved. Though some started a little late, they have taken the first steps and the future looks hopeful. Some, however, have yet to make any longrange calculations; they lack much will; they do whatever is required; and the years come and go. Practice has shown there is a very great difference in zeal for work and economic results when there is planning and when there is not. Even when plans are a little rough, they are better than none.

Is realization of the foregoing conception possible? After investigation and study, discussion with the masses, item by item calculations about local grain production and major economic diversification, many prefecture and county leadership comrades and prefecture and commune cadres believe that though the task is an arduous one, with effort it is entirely possible to achievement. They think ahead and are full of confidence. However, there are also a small number of comrades who see difficulties as being more numerous, and their confidence is not that great. One major reason is that our comrades' thinking is not broad; they do not have many ways of doing things; they are seriously prone to doing things in conventional ways; and they do not know how to use ingenuity to broaden avenues. We might organize our comrades to look a little more at advanced models and to seek instruction from the masses to widen their horizons and strengthen their confidence. Though conditions differ from place to place, everything depends on human effort and one has to make the most of conditions as he finds them. Everyone has his own strengths and each person walks his own path. The crucial point lies in the level of our leadership and the state of morale.

Formulating longrange plans requires not only a battle objective but also requires vigorous measures, based on local natural and human resources, the adaptation of general methods to specific situations, the use of strengths and the avoidance of weaknesses, and making the most of advantages. In the field of grain production, it is necessary to proceed from the basis of a fixed grain sowing area to organize a scientific attack to increase yields per unit of area and to carry out needed agricultural capital construction, to strengthen ability to withstand natural disasters, and to assure steady annual increases in total grain output. Since Sichuan Province has a large population relative to available land, sole reliance on grain will not make it possible to make a new start and become prosperous. While taking a firm grip on grain production, full use will have to be made of the province's bountiful natural resources and the mass workforce for vigorous development of economic diversification and industrial sideline occupations. The potential in this regard is very great. Rural average per capita earnings increases of 20 to 30 yuan depend primarily on this. Development of economic diversification requires bringing into play the enthusiasm of both the collective and commune members individually. The opportunities that commune member household sideline occupations provide are very great, and even more can be done in the field of collective economic diversification and industrial sideline occupations. Today, in a substantial number of production teams, nothing has been done about economic diversification, or else a start is just being made. Commune member earnings are very low. The main reasons are: first, no rational utilization of resources and human talent; second, insufficient perfection of production responsibility systems. Tasks that should be done by specialists have not been specialized, and tasks that should be performed jointly are not being performed jointly; third, leadership teams have problems of one kind or another. Leaders at higher level should give them pertinent assistance in solving these problems so that economic diversification can get underway.

Planning definitely requires proceeding from realities and following the mass line. Provincial and prefectural plans provide a rough guide, but most important is that from the county on down, particularly in communes and brigades, concrete planning and implementation be done. While giving attention to current production, individual communes and production brigades should simultaneously arouse cadres and the masses to full discussion, tap the potential resources, human talent and workforces provide, broaden production avenues, single out key items, and propose concrete objectives and measures for local communes and brigades so that plans will embody the desires of cadres and commune members and become converted into their conscious actions. Positively there can be no superiors subjectively coming up with standards that are imposed on those below. In the processing of formulating production plans, Shigang Commune in Wanyuan County launched three checks and three sees: First was to check the strength in resources of local brigades and to see how to use them sensibly; second was to check on skilled craftsmen and surplus workforces and to see how to make the most of the special abilities of human talent; and third was to check the potential for production of grain and economic diversification and to see how to tap it fully. Through such activities, they expanded their horizons, found avenues, and opened up new sources of revenue, this year adding an additional eight or nine production items and increasing earnings over original plan by more than 200,000 yuan. Their experience is good and merits promotion.

When formulating plans, cadres and the masses have to be taught to rely on increases in production to become prosperous and to become prosperous through labor, to institute a program of taking the planned economy as the key link with market regulation being supplementary, and to be concurrently concerned with the interests of the country, the collective, and commune members individually. While increasing individual income levels, it is necessary to make a greater contribution to the country, to assure required collective withholdings, and not to engage in dishonest practices. Longrange planning has to be linked to surveys of natural agricultural resources and to the zoning of agriculture with everything being done in accordance with natural laws and economic laws. After longrange plans have been formulated, revisions will have to be made through annual plans and their translation into reality, as well as through practice so that they better accord with reality. Once a plan has been devised it must be persevered in, followed to the full, and instituted step by step so that one's own locale changes year by year.

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CSO: 4007/522

'SICHUAN RIBAO' DEVOTES NEW COLUMN TO RURAL PROSPERITY

HK28k3k9 Chengdu SICHUAN Provincial Service in Mandarin 0830 GMT 26 Sep 82

[Excerpt] On the opening of a new column on how to bring prosperity to the rural areas in Sichuan Province as soon as possible, Sichuan RIBAO published an editorial note today on the front page.

The editorial note says: In order to implement the spirit of the 12th CPC Congress on our province's agricultural front, to encourage the vast number of cadres and the masses to contribute their initiatives and suggestions and devote their efforts to speeding up the development of agricultural production with one heart and one mind, to realize the aim of increasing production and income in rural areas in 5 years put forth by the provincial CPC committee, and to materialize the goal of struggle for the next 20 years before the turn of the century put forth by Comrade Hu Yaobang in his report to the 12th CPC Congress, our newspaper now specially opens, at the suggestion of the provincial CPC committee, a new column to start off the discussion on how to bring prosperity to the rural areas in Sichuan Province as soon as possible.

This discussion is started today, the editorial note says, the general ideological guideline for this discussion is to adhere to the spirit of the 12th CPC Congress and the party's principle of being practical and realistic and proceeding with everything based on the actual situation, to give full play to the spirit of boldly blazing new trails in carrying out rural economic reform, to further emancipate the productive force and to mobilize all positive factors to increase production and income in rural areas so as to help the peasants to get rich as soon as possible and make more contributions to the state. [passage omitted]

CSO: 4007/2

BRIEFS

TIANJIN CHANNEL PROJECT--On 6 September, the Tianjian Garrison District held a mobilization rally to mark the initiation of digging the last section of a channel to divert Luanhe River water to Tianjin City. All commanders and fighters attending the rally pledged to complete the project by 15 June 1983 in response to the socialist modernization set forth at the 12th Party Congress. Wu Zhiyuan, deputy commander of the Tianjin Garrison District, spoke at the rally. [Text] [Tianjin City Service in Mandarin 0030 GMT 8 Sep 82 SK]

CSO: 4007/2

XINJIANG

BRIEFS

XINJIANG WORKERS' LIVELIHOOD IMPROVES--The investigation of the living conditions of 220 worker households in Urumqi, Karamay, Yining and Kashi Municipalities has revealed that the average per capita income of workers' households per month in 1981 was 37.18 percent more than in 1979 and that the average per capita income for living expenses increased by 13.6 yuan, an increase of 31.13 percent. The investigation has also revealed that in the first half of this year, for every 100 households, there were 7.73 bicycles, 2.71 sewing machines, 11.82 watches, 9.09 radios, 16.37 television sets, 4.55 recorders, 0.91 cameras and 6.36 electric fans more than in the first half of last year. The workers' living conditions have also improved. [Text] [Urumqi XINJIANG Regional Service in Mandarin 1300 GMT 6 Sep 82 HK]

XINJIANG GEOLOGICAL WORK--Since the 3d Plenary Session of the 11th CPC Central Committee, Xinjiang Region has achieved outstanding results in geological work. Over the past 3 years, the region has discovered 48 ore deposits and points and built 13 large- and medium-sized reserve prospecting bases. After further working and expanding shafts, 11 old mining areas have increased their workable reserves. Since 1980, the region has discovered a large gold deposit and a sulphur deposit. Over the past 3 years, geological workers in the region have discovered a number of gem and jade production places in south and north Xinjiang. Moreover, they have actively conducted surveys to serve agriculture, animal husbandry, industry and urban construction in the region. [Text] [Urumqi XINJIANG Regional Service in Mandarin 1300 GMT 6 Sep 82 HK]

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END

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I. GENERAL INFORMATION

SOUTH CHINA REAPS BUMPER EARLY RICE HARVEST

OW171213 Beijing XINHUA Domestic Service in Chinese 0705 GMT 11 Sep 82

[Text] Beijing, 11 Sep (XINHUA)--Peasants in south China's early rice-producing areas have reaped a bumper harvest this year, thanks to their efforts to overcome the effects of heavy rain and waterlogging.

According to information released by departments concerned, it is estimated that the total output of early rice for this year has hit an all-time high, topping the 1981 figure by 3 billion jin or a little bit more, despite a reduction of 1.7 million mu in total acreage of this crop from the last year's total. Among these areas, Guangxi, Guangdong, Hubei and Hunan registered bigger margin increases in output while Anhui and Shanghai also increased some. Early rice output in Zhejiang and Yunnan remained at the 1981 level, and in Jiangsu, Jiangxi, Fujian, Sichuan and Guizhou it decreased slightly due to serious natural disasters.

This year's bumper harvest of early rice was achieved through efforts to stabilize and improve the various production responsibility systems, popularize agricultural science and technology and surmount the effects of various natural disasters. Guangdong Province planted 2.8 million mu of hybrid rice this year and the average per-mu yield topped that of the conventional variety by more than 100 jin. Many households engaged in early rice production on contract even registered per-mu yield of over 1,000 jin. The early rice-producing areas were hit by typhoon and torrential rain on many occasions during the crop planting and harvesting period in May through July. Crop damage was reduced to the minimum, thanks to efforts made by the peasants to help each other in their united struggle to drain the flooded fields, save the crop and exercise meticulous care in field management and harvesting. Bigger margin increases in early rice production were realized this year by areas of usually lower yield in output and areas not affected by natural disasters. All these factors made a nationwide bumper harvest of early rice possible despite the many natural calamities.

CSO: 4007/9

RURAL ECONOMIC OUTPUT, DEVELOPMENT DISCUSSED

HK020436 Beijing CHINA DAILY in English 2 Oct 82 National Day Supplement p 5

[Article by Du Runsheng, director of the Rural Policy Research Center of the CPCCC Secretariat: "Flexible Policies Are Key to Rural Wealth"]

[Text] The Chinese countryside is undergoing a period of reform which finds expression in two ways. One is the change in cooperative economic production methods. The other is the adoption of a diversified economic development policy.

A job-responsibility system also appears within the cooperative economy in the countryside to bring forth the initiative of peasants towards production and to strengthen the collective economy.

However, land still belongs to the state. The administrative organizations of the cooperative economy jointly manage and coordinate agricultural work like farmland planning, irrigation systems, adoption of large agricultural machinery, and production planning.

At the same time, organizations encourage the enthusiasm of the peasants towards production by allocating land and farm tools to them under job-responsibility contracts but letting them run their own production. The organizations share the products with the peasants according to the contracts.

The contractors share the collective expenses according to the quality of their individual plots and get what they produce. Collectively-owned businesses and sideline occupations are assigned to the peasants after agreement on output, investment and profits.

The agricultural cooperative system thus involves management at several levels. The unified management of brigades and communes meshes with the individual management of peasants. This has changed production methods. Under the general plan, each peasant household can arrange its yearly work as it wishes and family members can cooperate with each other in their work.

Productive Method

This method of production may seem backward compared with centralized management and general distribution of manpower, but it suits the production forces in the countryside and so promotes production.

It takes into account the interests of individuals and overcomes the shortcomings of egalitarianism in work payments. This method also gives peasants freedom in production, removing the likelihood of confused orders and other inefficiencies. It combines power, responsibility and individual interests, fanning the peasants' enthusiasm towards agricultural production.

In a developing country like China, socialist reform in agriculture is sure to be a long process. Since economic conditions in each part of the country are different, agricultural management must also take different forms during a certain process.

It will get us nowhere to go after equality in agricultural management. Therefore, any production method that can lead peasants to socialism should be adopted and encouraged.

China is a big country with a large population but a rather small amount of farmland. It is difficult to make the 800 million peasants rich quickly with limited farmland. For a long time we emphasized only the importance of grain production and neglected other crops. As a result, lots of forests and grassland were destroyed, and many lakes were filled in to produce grain. It did not increase the output of grain production but seriously broke the ecological balance.

In recent years, the party and government have called on peasants to develop agricultural production comprehensively. Apart from grain and cash crop production, animal husbandry, forestry and all forms of household sideline occupations, peasants have also established enterprises which process farm produce and have developed other small industries which require manpower rather than machines. They also set up service and commercial transportation businesses.

Diversified Economy

"We must positively develop diversified economic activity and pay close attention to grain production" is a slogan put forward by the party Central Committee and State Council. So we should develop mountainous or hilly areas, grassland and lakes by using our large labour force. This will have many benefits, raising peasants' income, accumulating agricultural funds, improving the diet of Chinese people and reducing the pressure of demand for grain. It will also use local labour forces in rural areas, thus avoiding further drift to China's already overcrowded cities, and will promote economic effectiveness by reducing the amount of transport needed.

It can be used to maintain the ecological balance of the environment and train a great number of people. It will heighten the material and spiritual civilization of Chinese people in rural areas, reducing the differences between two and the countryside.

On the basis of further diversifying economic activity, a great number of farm households which specialize in animal husbandry, forestry, small handicrafts, industry and transport have emerged. They are usually called "specialized families."

Some are contractors belonging to the collective economy compared with those who operate individually. Some join forces and operate within a group of several families. Although this new form of agricultural production is in an experimental stage, it has indicated the direction which will lead farm production to specialization and socialization.

These "specialized families" engage in commodity production and are quite different from self-supporting families of the past. As the members of "specialized families" are experienced in management and have production skills, so most of them achieve better economic results and are therefore better off than ordinary families.

It is natural for some peasants to become rich more rapidly than others through their labour and skills, and it is really a good thing to have richer peasant families under the socialist system--as long as they do not exploit others--because others can follow the same path.

In the course of economic development, many individual families will face common difficulties that will require joint efforts and cooperation in some phases of production. In that case, we can organize them well for production.

As is pointed out in a document from the 12th Party Congress, "it can be predicted that in the not too distant future, there will emerge in our rural areas an improved cooperative economy, with a diversity of forms, which will be able to capitalise on their advantages in the light of local conditions and facilitate the large scale adoption of advanced production measures."

By the end of this century, the lives of peasants in our country will reach a comparatively high standard, with their education and public health improved. Their consumption level of food and clothing and access to transport all also reach the world's medium level.

CSO: 4020/4

DEVELOPMENT OF WATER ENERGY RESOURCES URGED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese
No 3, 1982 p 25

[Article by Special Commentator: "Make the Most of Advantages, Hasten Development of the Country's Water Energy Resources"]

[Text] In the process of restructuring government organizations, the Water Conservancy and Hydroelectric Construction Company was formed. The company has been commissioned by the Ministry of Water Conservancy and Power to provide centralized leadership for national water conservancy and hydroelectric planning, surveying, designing, construction, and installation work, and for centralized management of manpower, financial, and material resources of subordinate units. This is a major result of the amalgamation of the Ministry of Water Conservancy and the Ministry of Electric Power, and it holds extremely important significance for the country's water conservancy and hydroelectric power construction.

China is a vast country with numerous rivers. Its water energy resources rank first in the world. It has theoretical reserves of 680 million kilowatts of which 370 million kilowatts may be developed for an electric power generating capacity of 1.9 billion kilowatt hours. Such an extremely abundant and valuable resource provides the country's water conservancy and hydroelectric power development endeavors with a vast field through which they may range. Our water conservancy and hydroelectric power construction corps possesses abundant technical strength, and it has accumulated rich construction experience. They are definitely skilled in their work. During the past more than 30 years they have built more than 20 million kilowatts of hydroelectric power stations, have excavated more than 500 million cubic meters of earth, have poured more than 50 million cubic meters of concrete, and have built a group of technically complex, remarkably beneficial large water conservancy and hydroelectric power projects such as the New Anjiang, the New Fengjiang, the Danjiangkou, the Liujiaxia, the Congzui, the Wujiangdu, the Bikou, the Fengtan, and the Gezhou dams. In 1981, hydropower generating output reached more than 65.5 billion kilowatt hours, an electric power equivalent to the burning of 40 million tons of coal. The broad masses of water conservancy and hydroelectric construction workers have struggled year in and year out in the deep mountains and gorges, arduously building and making a tremendous contribution to the country's water conservancy and hydropower construction endeavors.

At the present time, extent of development of our water energy sources is still comparatively low amounting to only 3 percent of reserves, and project construction periods are relatively long. Construction costs per kilowatt are also higher than formerly. There are objective reasons for the existence of these problems such as increases in the price of materials, increased engineering difficulties, increases in the expense of resettling people, etc. There are also subjective reasons such as many problems in work during the initial stages, construction management, in the building of a corps, and in organizational structure. Now with establishment of the Water Conservancy and Hydroelectric Construction Company, conflicts of an organizational kind in water conservancy and hydropower work have been solved. Duplication of organizations has been reduced, overlapping of work has been avoided, and in planning and construction, a change has been made from "separate efforts" to "joint efforts." This reform has benefited unified planning and overall control of rivers; it has permitted comprehensive consideration of flood prevention, power generation, irrigation, navigation, aquatic products, and supply of water for urban industry and daily life, full development of water resources for use, and rational economic planning of project construction. As a result of centralized management and centralized assignment of water conservancy and hydropower construction forces, in future the role of specialized technicians, of surveying, designing and construction units, and of machinery and equipment will be effectively brought into play, to create favorable conditions for hastening progress on projects, for improving project quality, and for all around increase in economic effectiveness of water conservancy and hydropower projects. This is a new strength that is building today in the country's water conservancy and hydroelectric power construction. Leaders, cadres, and workers as a whole at all levels on the front line of our water conservancy and hydroelectric power construction should rally their spirits, seize opportunities, make the most of strengths, focus on improvement in economic effectiveness, and hasten the pace of development to create a new situation in the building of the country's water conservancy and hydroelectric power.

Making the most of strengths and improving effectiveness entails, first of all, further strengthening of work during the early stage. The re-doing of work, work stoppages, and the seeking of more investment funds in the course of construction of some projects in the past resulted from failure to have done a good job during the early stage of work through being overly anxious to get started. In future it will be necessary to devote much attention to this work and do a good job of planning. Every project to be constructed will have to be studied and a good job done of designing and surveying the project, so that water conservancy and hydroelectric power construction will rest on a foundation of data that are dependable and make economic sense. Apart from satisfying current construction needs, project designs should be stored up to create conditions for future large scale development of hydroelectric power endeavors.

It is necessary to make sure to select priorities for development. In laying out construction tasks, it is necessary to give priority to development of water conservancy and hydroelectric projects where the need for electricity is urgent, conditions superior, investment economical, effectiveness great, and results quickly evident so that limited investment funds will bring maximum economic benefits. Low levels of administration and management, low labor productivity, and poor economic results are prominent problems in our water conservancy and hydroelectric power construction enterprises. An overall reorganization of enterprises centering on improved economic effectiveness should be done.

Leadership teams should be reorganized so that leaders of enterprises at all levels will be younger, better informed, specialized, and revolutionary for solution to the problems of laxity, weakness, overstaffing, and old age in teams. Economic responsibility systems will have to be established and perfected, and a construction organization management system that is scientific and cultured will have to be established. Cultural, technical, and vocational training will have to be given for all around improvement in the level of administration and management of enterprises.

Water conservancy and hydroelectric power construction is characterized by arduous environments and high labor intensivity. Many years' experience has shown that sole reliance on bonuses and reliance on money cannot make the construction teams good or project construction good. In addition to carrying out distributions according to labor, it is necessary that there be not the slightest bit of slackening of ideological and political work, vigorous development of campaigns to study the advanced and catch up with the advanced, to provide staff and workers with regular indoctrination in the proletariat being the masters of their own fate, and to give education in socialism, patriotism and situational education so that our construction corps will always maintain a vigorous fighting capacity, high revolutionary esprit, will unite to struggle, and work assiduously to make a greater constribution to water conservancy and hydroelectric power endeavors!

9432
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DEVELOPMENT OF RESERVOIR FISHING INDUSTRY URGED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 3, 82 p 28-30

[Article by Li Boning [2621 0131 1380]: "Raise the Reservoir Fishing Industry to a New Level As a Promoter for Development of the Freshwater Fishing Industry"]

[Text] Since founding of the Chinese People's Republic, very great development of water conservancy construction has taken place. During the period immediately following Liberation, there were only 15 reservoirs in the entire country, but today there are more than 86,000. They have not only been effective in flood prevention, irrigation, power generation, in providing water, and in shipping, but they have also provided spacious water surfaces and conditions for development of the freshwater fishing industry. Reservoirs in the country in which fish may be raised have a water surface of 30 million mu, which is about 40 percent of the freshwater in the country in which fish may be raised. With steady future development of reservoir construction, the economic significance and tremendous potential of the reservoir fishing industry will certainly be increasingly manifest.

Since the Third Plenary Session of the 11th Party Central Committee, the Central Committee has formulated a series of programs and policies for development of the rural economy, and the State Council has promulgated "Regulations on the Breeding and Protection of Aquatic Product Resources," and "General Order on Protecting the Security of Reservoirs and of Aquatic Product Resources." It has approved and sent forward the "Report on the Raising of Fish in Reservoirs and Development of All Around Operations" from the Ministry of Water Conservancy, the Ministry of Finance, and the National Aquatic Products Bureau. Last year the CCP Central Committee and the State Council forwarded the State Agricultural Commission "Report on Active Development of Rural Economic Diversification," which has powerfully promoted development of the reservoir fishing industry. Quite a few provinces, prefectures, and counties have conscientiously made arrangements for special funds for reservoir fisheries handed down by the state, have increased disbursements of funds for support of water conservancy construction project development of economic diversification and the reservoir fishing industry, and have organized reservoir fishery technical training for several thousand attendees annually. New techniques for hatching, catching and preventing the escape of fish have been promoted with benefit in many places. Many reservoir fish farms have instituted independent accounting, have adopted quota management, have linked calculation of remuneration to output, and have instituted production responsibility systems of various kinds for specialized contracting, and for hatching, raising, catching, and marketing in one continuous integrated process, which has stirred the enthusiasm of staff and workers. Today reservoirs under the administration and management of water conservancy departments have a fish raising water surface of more than 16 million mu. Thanks to the serious attention given by leaders at all levels, the cooperation of water conservancy and aquatic products departments, and efforts by reservoir fishing industry staff and workers, reservoir fishing industry output has steadily increased year after year. During the past 3 years, many places have experienced serious floods and drought, yet adult fish catches in the nation's reservoirs has continued to rise steadily year after year, reaching 120,000 tons in 1981 for an almost 30 percent growth over a period of 3 years. The extent to which reservoir management units and fish farms have been able to provide for their own expenses has improved remarkably. Substantial progress has been made in reservoir fishery techniques using the natural drop of impounded water to carry out high density raising of fish in running water, in use of net cages for overwintering and the raising of fish varieties of high quality, in the relocation and domestication of new varieties, as well as in making catches and preventing escapes.

Formerly water conservancy departments have lacked confidence about reservoir fisheries. First, they were worried about too little experience; second about a lack of qualified personnel; third about being saddled with losses; and fourth they felt they would lose control as a result of taking up the fishing industry. After 3 years of experience their mental concerns have gradually dissipated and their confidence and determination about the reservoir fisheries have been strengthened. The facts tell us that in operating reservoir fisheries, water conservancy departments will benefit from full use of water and soil resources, will benefit from centralized project management that makes the most of all around effectiveness, and will benefit from management unit self-sufficiency in operating funds, and in expansion of reproduction to create wealth for the country.

Nevertheless, many problems still exist in the reservoir fishing industry. One is that water surfaces utilization rates and yields per unit of area are too low. No one is raising fish on almost 9 million mu of reservoirs administered by water conservancy departments, and where fish are being raised, yields average only a little more than 10 jin per unit of area. Secondly, in the reservoir fishing industry, capital construction including hatching, raising, catching, and prevention of escape are not integrated. There are great shortages of funds, organizations and systems are not well developed, material and feed channels needed by the fishing industry are blocked; there is a shortage of people qualified in aquatic products, and scientific raising of fish still awaits general upgrading. Third, fishing industry production is chaotic with poaching of fish, dynamiting of fish, theft of fish, and poisoning of fish frequently occurring. Not only does this destroy aquatic product resources, it also endangers the safety of reservoirs. We have to summarize experiences conscientiously, look for gaps, formulate measures, and go farther in the raising of fish in reservoirs. This March the National Freshwater Fishing Industry Work Conference, convened by the National Agricultural Commission, called upon the reservoir fishing industry to bring about tremendous growth during the 1980's, asking that they strive for an output totaling between 400,000 and 500,000 tons. This is a glorious task.

We imagine that during the 1980's the almost 15 million mu of large reservoirs in the country will be fully used, and that average yields per unit of area will rise from the present 7-8 jin to 15-20 jin. Water surfaces on the approximately 15 million mu of medium and small size reservoirs that can be used will see average yields increase from the present 25 jin to between 40 and 50 jin. Total output of the reservoir fishing industry will rise from the present 120,000 tons to between 400,000 and 500,000 tons. During the past 3 years, the reservoir fishing industry in quite a number of provinces (or regions) has grown substantially. In Hubei Province, that land of fish and rice, it has grown 46 percent, in Sichuan, it has grown 70 percent; it has doubled in Jiangsu; and both Jiangxi and Guizhou have seen a more than twofold increase. We believe there are many factors favoring development of the reservoir fisheries, that there are large amounts of water surfaces capable of raising fish that remain unused, that the present production starting point is low; that conditions are good for raising high quality fish varieties, and that large quantities of fish food exist within reservoirs and bodies of water. What these areas have accomplished, other areas are also entirely capable of accomplishing, and are capable of surpassing.

Small reservoir fisheries require little investment and results may be seen quickly. Small pond-like reservoirs lend themselves particularly to development of "intensive raising," and within a short period of time, yields can increase by several tens of jin up to 100 jin per mu. While continuing to devote attention to large and medium reservoir commodity fish bases, water conservancy departments should make small reservoirs one of their major targets for attack. They should give strict attention to making overall plans taking all factors into account for both irrigation and the raising of fish for all around utilization.

For future accelerated development of the reservoir fisheries, the following views are offered:

(1) Understanding of the importance of reservoir fisheries must be increased. Reservoir fisheries are a major aspect of the overall benefits derived from reservoirs, and also a major ingredient in management unit development of overall operations. It is hoped that party and government leaders at all levels will be able to make reservoir fisheries a part of planning, organization and implementation of local development of large scale agriculture. All levels of water conservancy and hydroelectric departments should devote attention to reservoirs as a major matter in overall utilization of water resources for the realization of increased output and increased earnings, to create prosperity for the people, to improve the livelihood of staff and workers, and to advance management.

The principle of "management by and benefits for the builder" should be adhered to, with perfection of management systems, defining the scope of management. In accordance with the principle of echelon by echelon management, plans for development of fisheries and annual plans should be drawn for each reservoir. There should be a determination to improve existing reservoir fishery facilities by stages and in groups. During the "65" period, throughout the country the fishing equipment needed by the more than 300 large and medium size reservoir commodity fish bases that have been already constructed or are under construction should be further developed and completed. While removing dangers and strengthening reservoirs, all jurisdictions should look after the need for reservoir fisheries, building them at the same time and inspecting them for acceptance. In future building of reservoirs, from design to construction and from management and use, consideration is to be given at the same time to facilities needed for a reservoir fishing industry and multiple uses, both being examined and approved at the same time. We walked a tortuous road in the past, and we should summarize the lessons of this experience very well.

(2) Active development of multiple operations, strengthening of economic accounting, and steady improvement in levels of self-sufficiency in expenses. Today, state-owned water conservancy project management units above the county level number nearly 10,000, and during the past 3 years units that have used water and soil resources within the scope of their management, and have adapted general methods to local situations for the launching of economic diversification and active collection of fees for water and electricity to achieve virtual self-sufficiency or some surplus in meeting expenses number 45 percent of this number. This includes a 55 percent self-sufficiency rate for water conservancy projects. In 16 counties, municipalities, or autonomous regions in the country, state-owned water conservancy project management expenses and total earnings are virtually balanced, or earnings are greater than expenditures. Inasmuch as most water conservancy project management units are entrepreneural units that earn their own income and pay their own expenses and for which there is no mutual adjustment of profits and losses between one unit and another or one prefecture or county and another, annually the state has to provide a 100 to 200 million yuan subsidy from water conservancy enterprise funds or from funds that localities have contributed themselves. At the present time, more than half of management expenses for state-owned water conservancy projects derive from state support. The way to change this state of affairs is to increase income and reduce expenses. Water conservancy project management units have superior conditions for development of planting industries and breeding industries. In palces in which reservoirs are situated at the foot of a hill and beside a stream, in particular, the raising of fish and afforestation should be the major emphasis of multiple operations. Right now all jurisdictions in the country are carrying out a campaign of obligatory tree planting by all the people, and our water conservancy and hydropower departments, particularly the water conservancy project management units, should stand in the forefront of this campaign, persevere in it, carrying on without let up for many years to do a good job of afforestation and beautifying the environment. Future inspection, evaluation and comparison of reservoir administration and management should have as its major ingredient the raising of fish and afforestation.

Water conservancy projects have numerous facets; operations are of many kinds; their product batches are small; the production cycle is long; and the rate of profits is fairly small. Unified planning must be done through adaptation of general methods to local situations for planned development of key areas in order to produce batch lot production as rapidly as possible to achieve economic benefits. For a long time supply channels for feed and materials needed in the fishing industry and that are related to reservoir fisheries have not functioned smoothly. After the National Freshwater Fishing Industry Work Conference made regulations to meet the problem, this kind of problem will henceforth be included with freshwater fishing industry channels and will be properly solved equally and without discrimination. In order to link production, supply and marketing channels, it seems that organization and establishment of various kinds of multiple operations companies is a necessity. Today, Nei Monggol, Jiangsu, Zhejiang, Jilin, and Beijing, as well as quite a few prefectures and counties have organized establishment of water conservancy project multiple operations companies, which have been very effective in promoting development of multiple operations. It is suggested that all provincial (municipal and regional) water conservancy departments (or bureaus) take action, in conjunction with system reform, to organize and establish multiple operations companies at all levels as soon as possible. At the same time it is hoped that all jurisdictions will give needed financial support to reservoir fisheries and to development of multiple operating endeavors so as to promote development of these endeavors with all possible speed.

(3) Take a firm grip on technical training and give attention to scientific raising of fish for consistently high yields from reservoir fisheries. At the moment, effective scientific techniques should be promoted; attacks on key problems should be organized; and personnel should be energetically trained. Water conservancy departments in all provinces (municipalities and regions) should be asked to send graduates of water conservancy institutions to enhance technical forces. Water conservancy departments at all levels should cooperate closely with aquatic product departments in the running of short specialized technical training classes, group after group and over a period of time. Special funds pertaining to scientific research and training should be provided in accordance with requirements of the 1979 notice from the former Ministry of Water Conservancy.

(4) Strengthening of fishery management and improvement in relations between reservoirs and the masses. During the past few years Yantai Prefecture in Shandong Province has taken action to help communes and brigades in reservoir areas to develop production and improve living conditions with very good results. The Prefecture CCP Committee has organized all units concerned to support reservoir area communes and brigades in expanding their cultivated land, in building water conservancy, in constructing roads and building bridges, in adapting general methods to local situations for development of economic diversification, and in arousing irrigation areas to support the building of production in reservoir areas, in readjusting reservoir area grain and oil state procurement quotas, in reducing or not collecting fees for water, and in lightening labor burdens to bring about great changes in reservoir areas. This has both improved relations between reservoirs and the

masses, and has also pretty well solved order problems in the fishing industry. Other provinces (municipalities and regions) have had similar experiences that are worth conscientious promotion. In addition, education in the protection of reservoirs and love for reservoirs, and respect for laws should be widely spread among grassroots level cadres and the masses. Reservoir teams should be organized for joint prevention and joint care for the common protection of reservoir safety to obtain benefits from projects. Large reservoirs and key medium size reservoirs having a great bearing on the national economy and the livelihood of the people should, following discussion with and agreement from departments concerned, establish public security outposts or economic police, personnel and expenses being the responsibility of water conservancy departments, public security departments conducting investigations, training, and providing equipment. For the small number of lawless elements who refuse to change despite repeated education, who destroy projects and aquatic product resources, and who beat custodial personnel, discipline must be meted out in accordance with the law. Major cases that have not yet been disposed of should be solemnly handled quickly.

In recent years many places have been organizing pilot projects in association with or jointly with reservoir fishery communes (or brigades) concerned. This new born creature should arouse the serious attention of leaders at all levels. Practice everywhere has shown that among state-owned reservoirs, those commodity fish bases that have already achieved consistently high yields and have achieved batch production should not lightly change their fishery organization. Reservoirs that straddle administrative zones of water surfaces not readily managed that have low yields, should adhere to the principle of "three no changes" (namely, no change in centralized management leadership authority for reservoirs, state ownership of water surfaces, and ownership by all parties to associated operations; no change in reservoir and commune and brigade voluntary participation for mutual benefit; and no change in joint investment and joint responsibility for profits and losses), and may, under the centralized organization of reservoir management units, selectively operate joint or associated pilot projects. Specific forms of organization and provisions may be adapted from general practices to specific reservoirs. In raising, catching, intercepting, or protecting, either individual or multiple joint operations or associated operations may be used with step-by-step summarization of experiences to effect improvements. It is necessary to run pilot projects, first of all, with no rash action being taken or no "arbitrary uniformity" practiced. In the protection of bodies of water and the development of aquatic product resources, everyone bears responsibility. Water conservancy and hydropower departments are even more duty bound, and they should be promoters of the development of the freshwater fishing industry. Following diligent summarization of the lessons of experience, the Ministry of Water Conservancy and Power has emphasized in pertinent documents and professional conferences the issue of "saving trees, saving boats, and saving fish," and has drafted corresponding regulations. This was reiterated at the 1979 national conference on exchanges of experiences and the raising of fish in reservoirs and in multiple operations, and at last year's national water conservancy management conference. Now, water conservancy departments everywhere are in process of a comprehensive "three inspections and three stipulations," and water conservancy facilities that genuinely impede the "three saves" will be studied one after another, necessary remedial measures taken.

For many years water conservancy departments and aquatic products scientific research organizations and institutions at all levels have been very greatly concerned about water conservancy endeavors, and they have given extremely great support to reservoir fisheries. In the development of freshwater fisheries, water conservancy and aquatic products have a common goal and a common mission. Let us unite further and jointly make new contributions in the promotion of consistently high yields from the freshwater fishing industry.

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BRIEFS

STATE FORESTRY FARMS--Since 1979, state forestry farms in China have produced an average of 4 million cubic meters of lumber each year, 70 million jin grain, 14 million jin fruit, 1.9 million jin tea and 700,000 jin medicinal herbs. [OW231311 Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

EDIBLE OIL RATION--The Ministry of Commerce and Ministry of Finance have instructed various areas to provide an additional ration of two jin of vegetable oil per head for non-agricultural people throughout the country in observation of National Day. This is the largest amount additionally provided for a festive occasion since the introduction of the planned purchase and marketing of edible oil. This shows that since the third plenary session of the 11th CPC Central Committee, the situation concerning edible oil has become increasingly favorable from year to year. [Text] [HK291157 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 28 Sep 82]

CSO: 4007/9

BRIEFS

AGRICULTURAL MEETING--The Anhui Provincial CPC Committee sponsored a meeting in Guzhen County from 21 to 24 August to discuss matters concerning autumn planting. Wang Guangyu, secretary of the provincial party committee, and Meng Fulin, vice provincial governor, were present at the meeting, which was attended by 135 comrades in charge of agriculture in Hefei and other localities. It was reported at the meeting that output of the summer harvested crops in Anhui has exceeded 10 billion jin this year, mainly due to the implementation of the system of responsibility for agricultural production, improvement of soil fertility and the irrigation system. The meeting urged all areas to focus attention on wheat production this fall and fulfill various production quotas to insure greater wheat output next year. [OW231105 Hefei Anhui Provincial Service in Mandarin 1100 GMT 28 Aug 82]

CSO: 4007/9

RURAL COMMUNE'S WORK SYSTEM ACHIEVEMENTS NOTED

HK020606 Beijing CHINA DAILY in English 2 Oct 82 National Day Supplement p 5

[Article by Hu Wenshun, secretary of the Shuangqiao People's Commune Communist Party Committee]

[Text] Shuangqiao People's Commune in the Chaoyang District is one of Beijing's rural communes. It has 12,846 households who make up 47,719 people, and 52,000 mu (3,466 hectares) of farm land. There are 14,000 laborers and 7,000 factory and sideline workers. It is composed of five rural management areas with 62 production brigades.

The commune's chief concern is agriculture but at the same time, it is trying to develop in many fields. It has set up offices or stations in charge of industry and sideline activities, animals and fishery, hydropower, science and technology. There is also a hospital and a school for workers.

Great changes have taken place since the third plenary session of the Communist Party's Central Committee in December 1978. The establishment of various kinds of responsibility system was what the people wanted.

In only 3 years, major economic gains have set historic records. Agricultural and industrial gross income in 1981 amounted to 72.94 million yuan, an increase of 78 percent over the 40.94 million yuan in 1978. Average annual distribution per capita was 370 yuan, increased by 90.7 percent (194 yuan in 1978).

For 3 years running, Shuangqiao's farming, tree planting, animal raising, fishery and sideline production have all expanded, while crop yield has stabilized above 35 million jin (17.5 million kilograms).

The year 1981 was the sixth that its per mu yield reached over one thousand jin (7,500 kilograms of grain from one hectare). The per unit area yield of 33,000 mu (2,200 hectares) of grain field was 1,067 jin (533.5 kilograms). Vetetable output has been 52 million jin (26 million kilograms) every year. Milk cows increased by 50 percent from 12,000 3 years ago to 18,000 now. Milk production was increased by 35.6 percent and pigs increased by 41.6 percent. The fish catch has doubled. Chicken farms, force-fed duck farms and orchards were expanded.

About 100 industry and sideline enterprises have been developed, run either by the commune, or by brigades. Gross income from these enterprises grew from 30 million yuan in 1978 to 50.13 million yuan, in 1981, an increase of 67 percent.

The commune has helped enrich Beijing's market by selling more produce to the state. Its commodity grain increased by 71.6 percent. It also provides the market every year with 45 million jin (22.5 million kilograms) of vegetables, 11.2 million jin (5.6 million kilograms) of fresh milk, 17,000 pigs, 230,000 jin (115,000 kilograms) of fresh fish, 500,000 jin (250,000 kilograms) of eggs, 60,000 ducks and 3.6 million jin (1.8 million kilograms) of fruits.

The increases are attributed to the responsibility system. The Wuliqiao brigade is an example. It contracted 54 mu of land (less than 4 hectares) to 28 commune members for specialized production. The total output was 62 percent higher than the previous year and the members' income quadrupled. The average value of production per mu (1/15 of a hectare) rose to 1,144 yuan. The average annual distribution to each laborer was 1,370 yuan with the highest more than 1,800 yuan.

In the last 2 years the living standard of the commune members has been improved. According to a survey, some 1,900 households have built 6,000 new houses. Fifty percent of the households have bought TV sets. Thirty percent of the brigades have set up pensions for elderly members over the age of 60, ensuring the livelihood of the commune members when they lose their ability to work.

Shuangqiao People's Commune is looking forward to an even brighter future in 1983.

CSO: 4020/4

BRIEFS

WINTER WHEAT SOWING--Qingyang Prefecture, Gansu Province, has basically completed the winter-wheat sowing operation. As of 18 September, the prefecture had sown over 2.9 million mu of winter wheat. [SK250741 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 23 Sep 82]

SUMMER GRAIN PROCUREMENT--Gansu Province's Zhangye Prefecture implements the guidelines of the 12th Party Congress by marketing more good grain to the state. As of 15 September, the prefecture marketed 80 million jin of summer grain to the state. [SK231308 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 19 Sep 82]

CSO: 4007/9

GUANGXI

BRIEFS

NANNING PREFECTURE SILKWORM PRODUCTION--Nanning Prefecture in Guangxi region has developed silkworm production and reaped a bumper harvest. By the end of August, the amount of silkworm cocoons procured by the prefecture was some 5,500 dan and was 39.5 percent more than in the corresponding period last year. The prefecture overfulfilled its quota for procurement for the whole year by 28 percent 4 months ahead of schedule. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 25 Sep 82]

CSO: 4007/9

HEBEI, HENAN WATER CONSERVANCY PROJECTS ASSESSED, FOUND WANTING

Beijing CAIZHENG [FINANCE] in Chinese Nos 7 & 8, 5 Jul, 5 Aug 82

[No 7, 5 Jul 82 pp 1-3]

[Article by Survey Unit, Ministry of Finance: "Survey Report on Questions of Investment Benefits From Water Conservancy Construction in Hebei and Henan"]

[Text] Editor's Note: During the last half of last year, on instructions from Central Committee leadership comrades, the Ministry of Finance sent a survey team headed by Comrade Jiang Dongping [3068 2639 1627] to 14 counties in Hebei and Henan provinces to conduct a more than 3 month long survey of economic benefits derived from investments in water conservancy there. The survey team held informal discussions with local leadership comrades at all levels and with comrades in finance and water conservancy departments. They listened to the views of some water conservancy specialists, asked questions of commune and production brigade grassroots cadres and commune members, inspected some water conservancy projects and the transformation of water sources, and wrote a survey report. Central Committee leadership comrades made some important written comments on the survey report and instructed departments concerned to study the report seriously and to provide a water conservancy program for North China and major actions to be taken. This survey report will be published in two separate issues of this journal.

The new circumstances and new problems public financial work now faces are very numerous and require that we vigorously intensify our investigation and study work. It is hoped that government financial departments everywhere will be able to identify some topics and organize forces to carry out an investigation and study of them, and it is hoped that they will also select some survey reports for mailing to us so they may be published in this journal for an exchange.

Water conservancy construction achievements in the two provinces of Hebei and Henan have been very great. In the 30 years between 1951 and 1980 payments for water conservancy construction in these two provinces amounted to about 45 percent of payments made for support of agriculture. The two provinces used this investment to do many things. As compared with the period immediately following Liberation, the irrigated farmland area in Hebei Province increased from 11 million mu to 54 million mu; in Henan, it increased from 6.35 million mu to 58 million mu. Following the testing that the last several years of drought have provided, the area of each of the two provinces that can be fairly well assured of irrigation has been shown to be about 30 million mu. Expansion of the irrigated area has given powerful impetus to development of agricultural production. Some water conservancy projects have played a very good role as well in the prevention of floods, elimination of waterlogging, and reducing soil alkalinity as well as providing cities water for use. However, as a result of this survey we also feel that considering the tremendous cost to the country and the people, benefits from investment in water conservancy construction in these two provinces have not been all that they should have been. This is particularly true of some projects from which anticipated benefits were not derived following their construction. In order to conscientiously summarize the lessons of experience so that water conservancy construction will "genuinely proceed from realities," every available means used to increase economic benefits," and so that "the people will derive greater material benefits" from them, several problems deserve careful study for gradual solution.

1. The Question of Benefits From Reservoir Construction

Investment in the building of reservoirs constituted a very large proportion of water conservancy construction in the two provinces amounting to about 40 percent of total water conservancy expenditures. Total design capacity of reservoirs already constructed was for 9.5 billion cubic meters in Hebei Province and 13.3 billion cubic meters in Henan Province, and they were definitely effective in flood prevention and irrigation. However, for many reservoirs, economic benefits were not sufficient. Their actual water storage capacity was vastly lower than design capacity to the detriment of their effectiveness in irrigation and flood prevention. Among the several reservoirs that the survey team visited, except for individual reservoirs in which the water storage situation was fairly good, in most the actual current storage capacity is only about 10 percent of design storage capacity.

Why is it that actual reservoir storage capacity is vastly lower than design storage capacity? Aside from the protracted drought in North China during the past several years, one major reason is the poor quality of engineering. Faulty and dangerous reservoirs are numerous and they are thus unable to meet designed standards for impounding water and for holding back flood waters. For example, a reservoir in Lin County, Henan Province was started in 1958 and completed in 1960. It had a design storage capacity of 66.9 million cubic meters for a planned irrigation area of 100,000 mu. After it was completed, the dam leaked seriously and water could not be impounded in it. For 20 years it has been fixed year after year at a total investment of 70 million yuan (including a national investment of 20.93 million yuan), and today it is still a faulty reservoir that cannot impound water. According to a briefing provided by water conservancy departments in Henan, 10 of the province's 19 large and medium size reservoirs are faulty or dangerous, and 540 million yuan has already been invested in these reservoirs. Another 500 million yuan will have to be spent strengthen them and eliminate danger. In August 1975 following the collapse of a dam in Henan Province, water conservancy departments proposed the principle for water conservancy projects of "designed for 1,000 years, and checked for 10,000," with existing reservoirs being reinspected using the rains of "August 1975" as the criterion. As a result, some reservoirs of fairly good quality were put on the list of faulty and dangerous reservoirs in a situation in which every reservoir posed some danger. As a result of erosion and the serious silting of reservoirs as well, for many reservoirs urgent action had to be taken for "emptying reservoirs in advance of the flood season and releasing flood waters without impounding them." Before the advent of the flood season, water was flushed from the reservoirs and they were cleaned out, and during the flood season they dared not be used either to hold back flood waters or for storage. After the flood season had passed, there was no water to be stored; consequently, their effective usefulness was impaired.

Another major reason is that too many large scale projects were started. As a result, large numbers of projects were never completed or were not fully equipped. Hebei Province has reported a total of 133 half finished reservoir or irrigation ditch projects throughout the province (not including add-on projects started by prefectures and counties). After eliminating 22 of these that were duplicatory and to be "dismantled," an investment of 870 million yuan would still be required to finish construction of the others. For half finished water conservancy projects in Henan Province, an additional investment of 2 billion yuan would be required to complete construction. At the two province's current levels of investment, even if all new projects were to be halted, it would still take from 20 to 40 years to complete these leftover projects. Despite the very many problems with leftover water conservancy construction, some places have not learned the lesson. Seeing the good current rural situation, they want to continue overbuilding. After rural production responsibility systems were set up last year, in one county in Henan Province communes and brigades grew more tobacco to increase production and increase earnings. County public revenues also experienced a surplus, so it was decided to build six more reservoirs. The county arranged for Chengguan Commune to build one reservoir, and the commune did not wait until the fall harvest was in to begin construction of three additional reservoirs assigning responsibility for work on them to households on the basis of the average number of people in them. For households having few working members, harvesting of the peanut and sweet potato crops had to be left unfinished, and during fall and winter the soil could not be turned over nor manure collected. Embankments along fields could not be given any repairs, and there was fear that during the following year households might not be able to fulfill their fixed output quotas.

On the basis of the situation in the two provinces of Hebei and Henan, many problems requiring serious study exist in future water conservancy construction. Since Liberation, the state, communes, brigades, and peasants have invested large amounts of manpower, material, and financial resources in the building of reservoirs and large irrigation ditches. It has been estimated that for every yuan of state investment, the masses have to add two. In virtually every place where a reservoir should be built, one has been built, so henceforth aside from the reservoirs necessary to assure the water needs of urban industrial production and of the daily life of residents, no further large or medium size reservoirs should be built. The focus of efforts should be shifted to making the most use of and improving benefits derived from existing reservoirs. In addition, existing reservoirs should be classified in order of priority. Where reservoir quality and water resources are fairly good, these should be genuine strengthening of safeguarding and management to make full use of their effectiveness for irrigation and flood prevention. Some of these will require more construction and equipping, and arrangements should be made for this in a planned, step-by-step way insofar as financial and material resources permit. When reservoir quality is fairly good but water sources inadequate, the originally designed irrigation area will have to be revised, and the volume of water actually available taken into consideration in equipping them. Where reservoir quality is poor and water sources fairly good, the reservoir should be made safe, first of all, and in the strengthening and elimination of danger in faulty and dangerous reservoirs, specific requirements that are realistic will also have to be worked out. When water sources are insufficient, and reservoir engineering quality is poor as well, and there is no way to effect fundamental improvements, further construction and equipping should be halted or the reservoir should be scrapped. While guaranteeing the safety of places downstream, proper handling of the existing project should be done. In order to protect and make the most of the effectiveness of existing reservoir projects and facilities, firm grip has to be taken on soil and water conservation work in the areas of rain concentration in the upper reaches and in the reservoir area. When building new reservoirs, provisions for commensurate soil and water conservation projects should also be made part of plans. Continued future mobilization of the masses to build some small reservoirs that hold genuine benefits for the promotion of production is necessary, but the principle of voluntary participation by the masses is to be adhered to, construction tasks assigned on the basis of the size of benefits to be gained. When communes and brigades that will not benefit help with construction, they should be paid fair compensation.

2. Problems in Doing a Good Job of Water and Soil Conservation

For a long time great attention has been given to engineering measures for water control while the planting of trees, the growing of grass and such biological measures to preserve the ecological balance of the land have been neglected. Action has not been taken to get at the root causes of floods, and this has been a mistake. Water conservation funds from these two provinces used for water and soil conservation amounted to 0.6 percent of the total investment in water conservancy for the same period, and most of this money was also used in engineering measures to conserve soil and water, with very little used on biological measures.

On the one hand the planting of trees and the growing of grass for water and soil conservation and to hold water has been neglected, while natural forests and ground cover have been destroyed on the other, many grave consequences resulting. Destruction of the original forests in the mountain regions of these two provinces has been serious as a result of the large scale steel making efforts of 1958 and the cutting off of "vestiges of capitalism" in 1970, large scale felling of timber having been done both times, including the use of timber forests and economic forests (such as persimmon trees, walnut trees, Sichuan pepper trees, and apricot trees). For example, somewhat more than 160 households in Zhangjiazhuang, Paihui Commune, Wuan County in Hebei Province formerly had an average of somewhat more than 100 persimmon and walnut trees per household, and the masses there had a saying that, "persimmons and walnuts are like a crop of grain." Today only somewhat more than 700 trees remain in the entire village. Formerly the masses in mountain regions lived off the mountains where they lived, but after several major timber cuttings, the livelihood of the masses is hard, and they have no choice but to live off of the relief provided by the state.

As a result of the destruction of the ground cover, which make it impossible for the soil to hold water, plus drought, some of the streams in these two provinces have become waters without a source. In Hebei Province many of the more than 600 streams have stopped flowing. Some streams have been cut off inch by inch, seriously impairing irrigation and navigation. In Henan Province, navigable waterways have declined from 3,839 kilometers to somewhat more than 800 kilometers. Between Taihang Mountain and Chong Mountain, everywhere there are barren hills and mountains, soil erosion, and serious silting of reservoirs. In 1963, after holding back flood waters just once, silting of the Yuecheng Reservoir ran to 50 million cubic meters. In Luoyang Prefecture after about 10 years, 16 reservoirs have become entirely filled with silt and abandoned.

In order to improve China's natural climatic conditions and do a good job of further water conservancy construction, it is necessary to begin right now to treat vigorous intensification of water and soil conservation work as a strategic task that bears on the fundamental welfare of future generations of the Chinese race. In building water conservation, it is necessary to closely combine both engineering measures and biological measures. Distribution of funds for water conservancy must also be correspondingly readjusted on the basis of the foregoing. In view of the present state of soil erosion and the need for control by stages, in future the proportion of water conservancy must also be correspondingly readjusted on the basis of the foregoing. In view of the present state of soil erosion and the need for control by stages, in future the proportion of water conservancy expended will have to be increased for soil conservation.

The problem of a future source of funds for conservation of soil and water may be solved by cutting back on or readjusting water conservancy construction projects, and will not necessarily require increases in new expenditures of public funds. For example, in order to prevent flood waters from flowing into the Huang He, Henan Province is in process of building a reservoir with a design capacity of 1.2 billion cubic meters on the Luo He. Since the beginning of construction of this reservoir in 1958, it has gone through several ups and downs and more than 30 million yuan has been spent. If work continues, units concerned figure that an investment of about 1 billion yuan will be required (including an associated irrigation ditch system). Reportedly the geology for this reservoir is uncertain and there is serious fracturing of the bedrock for the dam. Even if completed, it might not meet standards because of safety and would not dare be used to hold back or store flood waters. It also might become silted as a result of serious erosion upstream. Some comrades have noted that expenditures of these funds on soil and water conservation in the mid and upper reaches of the Huang He and in the Luo He region would be more beneficial. They have figured that were these funds used to subsidize communes and brigades, 100 million mu could be afforested. If used as investment in a state-owned forest farm, 25 million mu could be afforested. Figuring 20 cubic meters per mu of water retained by a canopy forest, the economic benefit derived from this measure alone would be the equivalent of that derived from a more than 500 million cubic meter green reservoir that would long endure and from which waters would long flow. Some experts have suggested that the state annually allocate special investment to undertake comprehensive control of the middle and upper reaches of the Huang He, starting with the 100,000 square kilometer area where erosion is most serious in the gorges in Shaanxi and Shaanxi and in the basins of the Jing and the Wei, so that after between 10 and 20 years of unremitting efforts the amount of silt entering the Huang He will be reduced by 50 percent, and the coarse sand that causes most damage reduced by 60 percent. This is a program that goes to the root of the problem that merits serious attention. A good job of water and soil conservation will require the concerted efforts of water conservancy, forestry, agriculture, and planning commission departments, as well as all the provinces concerned making cooperative efforts and working in common. This is the only way in which to derive greater effectiveness, and it is suggested that the state designate a department possessed of authority the responsibility for carrying out this task.

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[Text] 3. Problems in Developing Pump Well Irrigation and Overcoming Excessive Extraction of Ground Water

Through the ages the two provinces of Hebei and Henan have had a tradition of using well water to irrigate the land. Today Hebei has 560,000 pump wells, and Henan has 500,000, which are outstandingly successful in developing irrigation and promoting production. Over the years Hebei Province has subsidized the sinking of wells with an investment of 730 million yuan to develop an irrigation area of 40 million mu, which is 74 percent of the irrigated area. Over the years Henan Province has subsidized the sinking of wells with an investment of 487 million yuan for development of an irrigation area of 34 million mu, which is 58.6 percent of the irrigated area. "With wells all is green; without wells all is brown." Well irrigation has truly caused agricultural production to go up in many places. As a result, enthusiasm for sinking wells is very high in these places.

A current problem deserving of attention is that wells are being sunk in ever increasing numbers to ever increasing depths, and the water table is sinking dramatically occasioning a series of problems. In Hebei Province the conflicts are extremely prominent. Measurements recorded at Xinhe, Wei, and Nangong counties show a general 20 to 30 meter decline in the water table in deep strata during the past 10 years. In Hengshui and Cangzhou prefectures, the water table has dropped an average 3 to 5 meters annually in places of high deep well density. Seven funnel areas have occurred in the province affecting 47 counties and municipalities over an area of 7,000 square kilometers. In Henan Province, the water resources are somewhat better than in Hebei; however, there too water tables are steadily on the decline, and 16 funnel areas have occurred over an area of 2,200 square kilometers. Analysis of measurements shows natural replenishment of deep strata ground water to be extremely difficult, every little bit pumped out means a little bit less. At Cangzhou, Hengshui, Tianjin, and Handan partial soil subsidence has occurred as a result of the lowering of the water table, and future trouble is a worrisome possibility. The suddenness of the drop in the water table has forced the frequent changing of pumps and constant removal of pump wells from service for very great losses to the country and to communes and brigades. Reports from Nangong County tell of the replacement of five different generations of pumps in less than 10 years. Changes have gone from centrifugal pumps to simple deep well pumps, to deep well pumps, to phreatic water pumps, to JD-type industrial deep well pumps. The height water has to be raised has gone from about 10 meters to 40 meters, or as high as 60 meters. Cost of raising a ton of water has increased from 0.0054 yuan to 0.021 yuan, a threefold increase. Statistics show the abandonment of 228,000 pump wells in Hebei Province between 1973 and 1978, 61,569 of them in 1978. In Xinhe County, between 1970 and 1980 a total of 1,730 wells were sunk, and during the same 10 year period 1,128 were abandoned.

Leadership comrades in some prefectures have pointed out the need for strict future control over the extraction of water from deep strata and full use of water in shallow strata, using water in deep strata for strategic conservancy, and permitting public funds subsidies intended for investment in deep wells to be used to subsidize shallow wells or other small water conservancy facilities. This is a sensible idea. Replenishment of water in shallow strata through precipitation is easy, and such wells can be continuously used, are easy to tap, and require small expenditures. Following institution in rural villages of production responsibility systems, in some places a single household or a combination of several households of commune members put to use old abandoned dug wells or bricked wells. They used manpower, animal power or small pumps to lift water, or sometimes they used hand operated pumps (that the masses call "old man happy" [pitcher pump] to raise water with very good results for watering the fields to combat drought. In a situation of surplus rural manpower, full use of manpower, using water in shallow strata to the greatest possible extent, saving energy for the country, saving expenses for commune members, and increasing income should be encouraged and supported.

In most parts of North China the amount of water required to grow 400 jin per mu of wheat or 100 jin per mu of cotton is about 400 cubic meters. It has been calculated that in Hebei Province, under normal weather conditions, water resources amount to an average of only 188 cubic meters per mu of cultivated land so for every person in the province to water a mu of land is, in fact, impossible to achieve. Any forced efforts to achieve it would inevitably lead to overtapping of ground water causing disastrous consequences. In addition to drought, changes in the growing of crops have also artificially increased the shortage between supply and demand of water. Under the guidance of the former mentality of "reversing the transfer to the north of grain from the south," the area sown to wheat in Hebei Province rose from 27 million mu during the 1950's to 42 million mu in the 1970's, and cotton declined from 15 million mu to 8.2 million mu. The growing season for wheat takes place almost entirely during the dry season and it is dependent on irrigation for two-thirds of its water needs. The growing season for cotton occurs during the rainy season, and rainfall substantially satisfies its needs. Drought tolerant millet and gaoliang cultivation declined from 46 million to 14 million mu, and corn, which takes a lot of water, increased from 20 million mu to 35 million mu. In a situation in which water resources could not be assured, large scale development of water loving crops meant inconsistent harvests. In 1979, wheat output in Hebei Province amounted to 12.68 billion jin, but in the 1980 drought year they plummeted to 7.98 billion jin, yields falling from 298 to 185 jin per mu. The ratio of water loving to drought tolerant crops should be decided on the basis of the possibility of tapping water resources for use. Places having fairly good water resources should actively develop irrigation; however, areas in which water resource conditions are arid or semi-arid should not push for a large irrigated area; instead, they should give greater attention to development of drought tolerant crop agriculture. In order to ameliorate the ever sharpening conflict between water resources supply and demand, both Hebei and Henan should study suitable readjustments of their crop growing structure. Mountain regions should also encourage the building of "three conservation fields," and study the spread of drought tolerant high yield crop varieties.

The year after year drought in Hebei Province and Tianjin Municipality has meant a shortage of water for the cities and countryside, making necessary the diversion of the Huang He over great distances. While Hebei is experiencing a water shortage on the one hand, it is making a "fundamental solution to the Hai He" on the other, annually discharging between 6 and 7 billion cubic meters of water into the ocean. In 1977 the Wenan lowlands stored 1.1 billion cubic meters of excess rainwater that caused waterlogging, but subsequently spent 20 million yuan for 250 pumping stations to drain it all away in order to grow wheat. In discussions with local comrades, some comrades had the idea of diverting some flood waters and excess rainfall that caused waterlogging into natural depressions (such as the Wenan lowlands, Baiyangdian Lake, Dalangdian Lake, the Jiakou lowlands and Tuanbo lowlands) for storage, this way impounding between 4 and 5 billion cubic meters of water, which would not only replenish the plain's ground water and reduce the fall in the water table, but could also supply water to the nearby industrial cities of Tianjin and Cangzhou. Use of natural depressions and lakes would require only a little changing around; it would not require moving people nor would the state be required to invest much. Impounding of water would result in a reduction in the amount of cultivated land, but water surfaces could be used for production to increase income. This is possibly a sensible idea, and it is hoped that those concerned with give it study and examination.

4. Use of Cisterns to Solve the Drinking Water Problem for Mountain Region People

In order to solve the problem of storing drinking water for people in mountain regions, Hebei and Henan provinces have allotted 90 million and 76 million yuan respectively over the years, but the problem has yet to be solved completely. Every year it is difficult for between 2 and 3 million people to get drinking water. The survey team came to realize as a result of visits to several mountain villages, that one major reason accounting for drinking water problems is that under the former erroneous leftist guiding mentality the dry wells used for storing water (sometimes called cisterns or water storers), which were built generation after generation as mountain region droughts required, had been largely cut out as a vestige of capitalism. Collectives took to drinking "water from a large common pot," and when they could not get it, they had no choice but to mobilize an entire county's vehicles to haul drinking water. In Jingxing County in Hebei Province, 119 households consisting of 520 people in the Lianjiayao Production Brigade abandoned their dry wells one after another after they had been made public property. During a period of more than 10 years, the state has made a 66,000 yuan subsidy; brigades have invested 28,000 yuan, and commune members have devoted 100,000 workdays to sink four deep wells (40 to 160 meters deep), without finding water and causing a very great waste. This production brigade has built a pumping station to lift water in three stages 177 meters, has installed 175 horsepower of machinery, and has layed more than 20 li of pipe. Cost of raising 1 dan of water amounted to more than 0.10 yuan, which the production brigade and commune members could not afford, so they had to dismantle the machinery and put it in safe storage, abandon the project, and continue to haul drinking water in from elsewhere.

Drinking water problems in arid mountain regions have been solved well in some places. Songshuling Production Brigade in Jinxing County has 26 households containing 100 people. They assiduously summarized the lessons of past experience and, in 1972 they began to continue the digging of dry wells to store water. The wells dug by the collective were assigned to the care of a specially designated person, and the wells dug by commune members were owned and used by those who dug them. Today the collective has 26 dry wells capable of storing 3,300 cubic meters of water, and commune members own 20 dry wells capable of storing 610 cubic meters of water for a total of 3,900 cubic meters. Despite continuous drought since 1978, there has been no shortage of water. In the spring of 1980 they used the dry wells to store water to fight drought and managed to dibble seeds at the proper planting time for 40 mu of crops as well as to provide drip irrigation for 12 mu to assure a harvest. Though Lin County has built the Hongqi channel to divert the waters of the Zhang He, the drinking water problem has still not been entirely solved there, and in mountain region communes and brigades, and rural villages far away from the channel, 170,000 people still have problems with drinking water. Year after year the county mobilizes up to 100 trucks to deliver drinking water to places lacking it. Following examination and study plus summarization of experiences, the County CCP Committee and county government decided in 1980 to adopt the method of commune members digging dry wells, with the state providing a suitable amount of subsidization (a subsidy of 30 yuan for each well dug), those digging the wells owning them and the county government issuing certificates of ownership. The enthusiasm of the masses was consequently very high and within the space of just a little more than a year, 8,000 dry wells were dug. In 1981, 6,000 such wells were full of water and able to solve the drinking water problem for 30,000 people. The county plans to dig another 30,000 such wells between 1982 and 1984 for gradual solution of the drinking water problems for mountain region communes and brigades.

Practice has shown that in most mountain regions of North China in which ground water is buried very deep, the digging of dry wells to store water is an effective and reliable means for solving the drinking water problem. Though North China is arid, in summer rainfall is concentrated and runoff is considerable. All that is required is to make ready before the rains fall, to manage carefully, to give attention to diversion and storage, and wells will be ready before one is faced with thirst. In winter ice can be cut and snow stored in the dry wells too. Water stored in these wells does not evaporate very much, and it can be stored for a long time. A well that stores 30 cubic meters of water can provide a household with enough drinking water for a year. At the present time the state annually disburses special funds to solve the problem of drinking water storage for people. In future, some of these funds should be used to help commune members and production teams dig dry wells. In addition some cement and other needed building materials could be supplied. State subsidies could be distributed to production brigades to be provided to households, or they could be directly sent to households. Policies could be clearly formulated providing that dry wells used for drinking water would be a means of production under the ownership of commune members. Dry wells dug by the collective should definitely have a person appointed responsible for them so they receive regular maintenance and have water channeled into them when it rains.

5. The Problem of Centralized Planning of Water Conservancy Construction

Survey of both banks of the Zhang He brought the realization that for many years each province has competed to build irrigation ditches and reservoirs on the Zhang He, and that construction has been duplicatory. They have both destroyed water resources and impaired water conservancy benefits, and have created a great waste of manpower, material, and financial resources. In 1959 the Ministry of Water Conservancy directly invested 750 million yuan in the building of Yuecheng Reservoir (including an associated irrigation ditch system) with a reservoir capacity of 1.09 billion cubic meters. After construction was finished in 1962, as designed, 2.4 million mu in Ci and Handan counties in Hebei Province was to be irrigated, but the actual irrigated area was 2 million mu. In Henan Province, a 1.2 million mu area was to be irrigated in Anyang, but the actual irrigated area was 1 million mu. The benefits were not bad. Later, however, Lin County built the Hongqi Irrigation Channel; Anyang County built the Yuejin Channel; Ci County built the

Xiaoyuefeng Channel, and Handan Prefecture built the Dayuefeng Channel. In addition, Changzhi Prefecture in Shanxi Province built three large reservoirs and two diversion channels on the Zhang He and its tributaries, each reservoir having a capacity of 1.356 billion cubic meters. Irrigation ditches could annually divert 2.774 billion cubic meters. The capacity of both totaled 4.13 billion cubic meters, greatly exceeding the annual 1.6 billion cubic meter volume of flow that the Zhang He basin above the Yuecheng Reservoir had averaged for many years. Investment in projects by Henan and Hebei amounted to somewhat more than 1 billion yuan. When the final accounting was in not only was there no increase in the irrigated area, but rather a decrease. The area that the Yuecheng Reservoir could effectively irrigate had been 3 million mu, but because of the interdiction of water sources in the upper reaches, for several years in a row there has been no water for irrigation. Taken together, the Hongqi Channel, the Yuejin Channel, the Dayuefeng Channel, and the Xiaoyuefeng Channel in the upper reaches can irrigate only between 740,000 and 990,000 mu, or one-third the irrigation area of Yuecheng Reservoir. The survey team went to the site where it saw that some project channels cross mountains, traverse rivers, and vault gorges. There are huge tunnels, and great aqueducts that span distances of more than 120 meters. There are also inverted siphons, and sluice gates. But because the water has been intercepted in the upper reaches, they stand there doing nothing. Some comrades have sighed and said such great efforts exerted in duplicatory construction, mutual competition for water, transfer of ditches, movement of water conservancy, and damage to the working people's wealth has caused a loss that has outweighed the gain! In the Zhang He basin where 9 out of every 10 years are drought years, the competition for water has gone on for generations, but for it to grow to such a large scale has been unprecedented. Formerly, unconcern for the overall situation, each jurisdiction being a government unto itself, and the building of projects to suit oneself was not only not controlled but was widely touted as being "activist." As a result, everyone competed, and the longer it went on, the less it could be curbed.

With the development of industrial and agricultural production, the very great increase in use of water, and the ever increasing competition for water between city and countryside, industry and agriculture, production and daily life, it will be necessary to adopt proper regulatory measures. Reports from Ci County tell of how in order to assure water for Handan industry, last July and August Ci County had to assign two deputy county heads responsible for leading more than 200 cadres to guard the Fuyang He channel night and day. They did not permit communes and brigades to pump water to irrigate farmland, so agriculture sustained major losses and feeling ran high among both cadres and the masses, which hurt relations between industry and agriculture and impaired stability and unity. One thing deserving of attention is that a shortage of water exists on one hand while water is being wasted on the other, and pollution of water resources is serious. In order to conserve water, agriculture has to irrigate sensibly, and industry has to recycle water (By recycling water, the Anyang Steel Mill has been able to save three-fourths of its water). The situation in some places of drinking "from a large common pot" has to be changed, with water used in production and daily life being metered and paid for. In addition, standard fees for water will have to be hiked. Vigorous efforts will be required to purify contaminated water in order to effect control within a limited period of time. Hebei Province's industry annually uses 2 billion cubic meters of water and discharges 1.5 million cubic meters of waste water that seriously pollutes the environment and endangers the health of the people. Shanxi Province plans to build a large chemical fertilizer factory on the upper reaches of the Zhang He; and the people in Lin County, Henan Province are frightened. They fear pollution of water sources that will affect the drinking water for people and livestock. Some cadres and people say: "Agriculture uses water to support industry, but industry discharges water that harms agriculture." This problem has truly reached the time when it must be solved. Propaganda appeals that attract everyone's serious attention have to be made, and industry has to be willing to part with some money to do this. In order to solve the conflict over water, centralized planning that is scientific and that takes the needs of all parties into account is urgently needed. No longer can each party do as it pleases or indulge in the waste of precious water resources.

9432
CSO: 4007/558

BRIEFS

COTTON OUTPUT--By 13 September, Hebei Province had purchased 26.36 million jin of cotton from 100 cotton-producing countries having a total of 10.41 million mu of cottonfields. This purchase is 15.5 times the quantity bought during the same period last year. Some countries sold as much as 400,000 jin each in a day. To help cotton-growing peasants, 455 purchase points were added and another 7,000 cadres trained specially for the purpose of purchasing. [OW231129 Beijing XINHUA Domestic Service in Chinese 0111 GMT 19 Sep 82]

COTTON PROCUREMENT--By 13 September, 100 cotton production counties in Hebei Province had sold to the state some 26 million jin of new cotton, which was equal to 1,550 percent of the amount of cotton sold to the state by 13 September last year. The province's cotton-growing area this year is approximately 3 million mu larger than last year. [Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 18 Sep 82]

CSO: 4007/9

BRIEFS

WHEAT PROCUREMENT--Harbin, 9 Sep (XINHUA)--As of 4 September, the state-run farms in Heilongjiang Province turned 700 million jin of spring wheat over to the state, overfulfilling this year's procurement task by 16.6 percent. The total area of fields sown to spring wheat reached 12 million mu, reducing by nearly 4 million mu over that of 1981. However, the average per-mu output increased by 24.6 percent over that of 1981 and the average per-mu output surpassed 300 jin at 18 farms. [OW291151 Beijing XINHUA Domestic Service in Chinese 0142 GMT 9 Sep 82]

WHEAT SELLING--Inspired by the guidelines of the 12th CPC National Congress, reclamation area in Heilongjiang Province has vigorously marketed wheat to the state. As of 25 September, the reclamation area marketed 800 million jin of wheat, overfulfilling the wheat procurement target by 33 percent. This year the reclamation area had decreased the sown area of wheat due to serious waterlogging in spring. Therefore, efforts were made to increase the per-mu yield of wheat. Average per-mu yield of the 12 million mu of wheat in the area increased 24 percent over the past year. Eighteen state farms have surpassed their average per-mu yield of 300 jin. [SK280922 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 27 Sep 82]

SUCCESSFUL TREE PLANTING--Harbin, 27 Sep (XINHUA)--Shelterbelts, timber forests and fuel woods totalling 229,000 hectares have been planted since 1979 on the Sanjiang Plain--a triangular area near the confluence of the Heilong, Songhua and Wusuli Rivers in northeastern Heilongjiang Province. This amounted to 46 percent of the total area afforested in the preceding three decades. Officials from the Provincial Forestry Department said this can be attributed to such new forestry policies as trees belong to the "planters"--the state farms, communes or individual peasants--and tree-planting responsibility system. Peasants and farm workers are responsible for the tree growth under contracts signed with production brigades and farms. The survival rate of the trees planted in the past 3 years by peasants averages 73.1 percent and the rate by the state farms reaches 91 percent, both new records, they said. In the past, stress had been placed on land reclamation with little regard to afforestation, thus causing severe soil erosion that affected farm production. The farmland shelter-forest on the plain covered an area of 16,600 hectares up to 1978, 0.76 percent of the total cultivated land of the plain. [Text] [Beijing XINHUA in English 0706 GMT 27 Sep 82]

CSO: 4007/9

BRIEFS

ZHOUKOU PREFECTURAL DEVELOPMENT--Zhengzhou, 21 Sep (XINHUA)--Since the third plenary session of the 11th CPC Central Committee, Henan's Zhoukou Prefecture has made rapid development in agriculture, forestry and animal husbandry. The total output of wheat reached 3.355 billion jin this year. The total output of cotton and oil-bearing crops in 1981 increased by 250 and 85 percent over the output in 1978 respectively. The number of draft animals increased from 527,000 head in 1978 to nearly 900,000 head in August this year. During the past 3 years, the prefecture turned in to the state 3.02 billion jin of wheat, 370 million jin of ginned cotton and 100 million jin of edible oil. The prefecture has 190 million trees at present. [OW281113 Beijing XINHUA Domestic Service in Chinese 0030 GMT 21 Sep 82]

WATER CONSERVATION MANAGEMENT--Since the third plenary session of the 11th CPC Central Committee, Henan Province has strengthened water conservation management. In the past, the water conservation system in the province attached more importance to building water conservation projects and less to their management. The system did not emphasize economic returns. As a result, the state had to appropriate a large amount of funds to consolidate and repair dams each year. The number of water conservation management units which are financially self-sufficient has increased by 11.4 percent. These units earned profits of 5.98 million yuan. No county water conservation management unit was financially self-sufficient in 1979, but in 1981 there were 20 counties and municipalities which were financially self-sufficient. In the first half of this year, water conservation management units in the province earned profits of 1.16 million yuan. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 23 Sep 82]

CSO: 4007/9

FOOD DEPARTMENTS FINANCE SYSTEM REMAINS UNCHANGED

HK300919 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 29 Sep 82

[Text] At a conference on strengthening financial management held by the Provincial Finance Bureau, Vice Governor Tian Ying announced that the policy on assuming responsibility for finances in grain, edible oil, and foodstuffs being implemented by our province's grain and foodstuffs departments will remain unchanged.

In spring this year, the provincial people's government decided that the policy on assuming responsibility for finances in grain, edible oil and foodstuffs be widely implemented in all grain and foodstuff departments in our province. Practice in the past few months has proved that this policy has played a relatively great role in giving play to the initiative of local departments, putting an end to the losses that these departments have long suffered and bringing about greater economic returns. According to statistics of the Provincial Finance Bureau, in the first half of this year, losses caused in handling grain and edible oil decreawed by 17 million yuan over the same period last year, and losses in pigs also decreased.

Recently, some basic-level grain and foodstuffs departments and some local finance departments have been concerned about the question of whether this policy will be continued. In answer to this question, the vice governor announced that this policy will remain unchanged. He hoped that comrades in grain and foodstuffs departments at all levels in the province would make continuous efforts to reduce losses and increase profits for the state.

CSO: 4007/9

HUBEI

BRIEFS

FARM PRODUCE PROCUREMENT--The Hubei Provincial CPC Committee recently made a decision urging various localities to increase purchasing outlets for procuring grain and sideline products from the peasants to avoid losses. [Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

CSO: 4007/9

BRIEFS

CAPITAL CONSTRUCTION--From January to August, Hunan Province completed capital construction in which the amount of investment was some 728 million yuan, which is 75 percent of the quota for investments for the year and 38 percent more than in the corresponding period last year. In the province, 218 projects have now been completed and put into operation. These projects include 238 km of 220,000-volt electricity transmission lines, 90,000-kilovolt-ampere transformer equipment, coal mines with an extraction capacity of 100,000 tons, water facilities with a daily supply capacity of 230,000 tons and cold storage with a capacity of several thousand tons. [HK281219 Changsha Hunan Provincial Service in Mandarin 2310 GMT 23 Sep 82]

PREFECTURAL GRAIN PRODUCTION--Changsha, 21 Sep (XINHUA)--Hunan's Yueyang Prefecture reaped a bumper harvest of early rice this year as a result of promoting responsibility system in production. As of early September, this prefecture had turned in to the state over 610 million jin of grain, thus overfulfilling the procurement plans for the summer harvesting. [Beijing XINHUA Domestic Service in Chinese 0020 GMT 21 Sep 82]

CSO: 4007/9

NANJING AGROBIOLOGICAL SCIENCE INSTITUTE OPENS

OW211753 Beijing XINHUA in English 1533 GMT 21 Sep 82

[Text] Nanjing, 21 Sep (XINHUA)--China's first institute of agrobiological genetics and physiology opened today in Nanjing, capital of Jiangsu Province.

The new institute, under the Jiangsu Provincial Academy of Agricultural Sciences, is one of China's nine key projects for agricultural scientific research. The institute was built with joint investment by the Ministry of Agriculture, Animal Husbandry and Fishery and Jiangsu Province.

The institute has three research sections--genetics, physiology and biochemistry--and 43 research workers. Its main building, with a floor space of 4,200 square meters, houses 73 laboratories equipped with 107 instruments, including electron microscopes, atomic absorption and flame spectrophotmeters, gas chromatographs and amino acid analyzers.

"We shall work to improve the material and technical conditions for the country's agricultural scientific research and strengthen applied and basic researches in agro-genetics, physiology and biochemistry," said Professor Xi Yuanling, director of the institute.

"We'll concentrate on working out new approaches and methods and providing new materials for the development of new crop strains and cultivation techniques," he said.

The institute will also train scientists specializing in agro-genetics, physiology and biochemistry, the director added.

Since preparations for the institute began in 1979, scientists have completed seven major research projects, including the technology of regeneration of rape plant from tissue culture through embroys and technology for photosynthetic breeding of rice.

CSO: 4020/4

ECONOMIC EFFECTS OF COMMUNE, BRIGADE ENTERPRISES NOTED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese, No 7, 1982, pp 40-44

[Article by Gu Songnian [7357 2646 1628] and Ren Xinbao [0117 2450 0202] of the Jiangsu Provincial Social Sciences Institute: "The Relationship of Commune, Brigade Enterprises with Small Market Towns and Key Cities"]

[Excerpt] Commune and brigade enterprise development in Jiangsu has been rapid and is well-known throughout the whole nation. During the last two years, when the process of adjustments to the national economy encountered many contradictions and hardships, Jiangsu's commune and brigade-run enterprises still made considerable progress. By September of last year the commune and brigade enterprise production value throughout the province was 17.4 percent higher than the same period last year, which greatly exceeded the speed of increase for industrial enterprises throughout the province. It is now becoming more and more apparent that the flourishing development of commune and brigade enterprises throughout the broad countryside is an expression of the results of the economic rules determined by our country's objective economic conditions. We must work not only with the countryside itself but also with the links between urban and rural areas in comming to understand the strategic significance of developing commune and brigade enterprises and in summing up their practical experiences, coming to grips with their rules of development and promoting their continued progress.

Development of Commune and Brigade Enterprises Depends Upon Aid From Key Cities

The total production value of commune and brigade enterprises in Jiangsu was .69 billion yuan in 1970 and 10.94 billion yuan in 1980, a 14-fold increase in 10 years. A look back at the process of commune and brigade enterprise development in Jiangsu shows that: from its very inception, a commune and brigade enterprise develops in close accordance with the needs of agricultural production. The needs of agricultural development consist not only of the needs for agricultural production and agricultural mechanization but also include such agricultural needs as the transfer of large amounts of excess labor force, increased agricultural accumulation and improvement of commune members' income. Therefore, the sharper the contradictions of many people and little land and much labor and few fields the faster the development of commune and brigade enterprises will be.

Commune and brigade enterprises do not develop merely because of need but also must have certain material and technological conditions. Jiangsu has many mid-sized cities and also is very near to the nationally important key city Shanghai. Cities are specially designated areas which are centers of economic development. They contain concentrations of economic activity, such as production, exchange, distribution and consumption. They all were formed naturally during the process of developing the social division of labor and a commodity economy. The commodity economy in Jiangsu is relatively well developed and the historical process of development of this economy gradually formed a number of large, medium and small cities. The provincial level cities consist of Nanjing, Wuxi, Xuzhou, Changzhou, Suzhou, Nantong and Lianyungang. In addition, there are the four prefectural municipalities Zhenjiang, Yangzhou, Qingjiang and Taizhou. These cities of varying scope constitute economic centers of differing levels. As far as the countryside is concerned, besides being heavily populated, they all are places of concentrated industry, convenient transportation, flourshing markets, concentrated wealth, and advanced civilization, science and technology. These cities provide precisely the variety of aid and assistance needed for speedy development of flourishing commune and brigade enterprises.

Factories and enterprises cannot operate without machinery and equipment. Jiangsu cities have a rather strong foundation in the machinery industry, in 1970 there were 68,000 machine tools which could produce a great variety of machine products and were capable of performing the complete manufacturing process. To a great extent, commune and brigade enterprises rely on the equipment provided by the municipal machinery industry. For example, in the Wuxi county commune operated farm machinery plant, over half of the machine tools are provided by the municipal machinery industry.

In solving their problems of technological strength the commune and brigade enterprises also cannot do without the municipal industries. The process of development of the Jiangsu commune and brigade enterprises clearly shows that the core technological strength for the commune and brigade factories is provided by retired workers and rusticated workers from municipal factories. In the years around 1970 when the Wuxi county commune and brigade enterprises made great progress the great majority of the technological backbone operating the factory consisted of rusticated workers from the municipal factories. Even after the commune and brigade enterprises had taken a step forward they all continued to introduce great amounts of technological strength from the municipalities. According to incomplete statistics from the prefectures of Nantong, Yangzhou, Huaiyang, Xuzhou and Yancheng, the counties of Taicang, Wujin and Yixing as well as the suburban areas of Wuxi, Suzhou, Nantong and Xuzhou, in 1980 commune and brigade enterprises hired personnel from various Jiangsu municipalities as well as Shanghai, including 91 technicians who were first class engineers, 336 technicians and 7,998 highly trained retired workers.

Because the municipal factories continually progressed in improving the levels of professional cooperation, the municipalities are adopting such practices as "product culling" and factory-commune combined operations to assist in the development of commune and brigade enterprises in the surrounding countryside. Certain mid and low demand products are "culled" out and produced by the commune and brigade factories and certain parts or components are sent to the communes and brigades for processing. This is necessary for the development of municipal industries and provides more direct and more useful aid to the commune and brigade enterprises. For example, the Hangzhou Embroidered Handkerchief Plant managed to expand cooperation between cities and the countryside, organize plant and commune joint operations and promote production development without any additional buildings, labor forces, capital or equipment. During the first half of last year, the quantity of machine embroidered products was 88 percent higher than the same period the previous year. Ten counties including Wujin, Yixing, Jintan, Danyang and Jiangyang developed 251 commune and brigade enterprise processing stations employing 3,400 persons. This cooperation and joint operation permitted the commune and brigade processing enterprises for the above counties to make stable progress and provided the workers with approximate annual income of 500 yuan, thus increasing the household income of commune members.

In the cities the number of scientific research units and professional schools having advanced scientific and technical knowledge and equipment provide a string backup for commune and brigade enterprises. According to statistics for the first half of 1980, there already are over 130 scientific research units and professional schools both within and outside of the province which have formed links to cooperate with commune and brigade enterprises throughout the province. They have developed 130 new, high quality and technically advanced products in the areas of machinery, electronics, chemical engineering and light textiles. For example, in Wujin county the Hengshan Commune Radio Component Plant and the Nanjing University Computer Science Department cooperated in successfully developing an electronic computer bilateral miniature socket series, filling a void in the domestic miniaturization of such socket series and satisfied the urgent needs of scientific reserrch and production units.

Most commune and brigade enterprises are non-plan production. Therefore, the commune and brigade enterprises had to go through all of the various cooperative avenues of exchange of materials in cities both within and outside of the province in order to obtain the fuel and materials necessary for production, including left over bits and pieces of material.

Obviously, the development of commune and brigade enterprises in Jiangsu has been relatively fast and, objectively, this is due to its advantageous situation, namely, the great number of large and mid sized cities which provided powerful support for the development of rural commune and brigade enterprises. The process of commune and brigade enterprise development actually is a process of the key cities transmitting to the backward areas of the broad countryside materials and technology and promoting the development of social production forces.

Commune and Brigade Development Brings Changes to Small Cities and Towns

With cooperation between the cities and the countryside the Jiangsu commune and brigade enterprises not only had rapid increases in quantity but also made great improvements in quality. In response to improved conditions in the comprehensive development of agriculture, industry and sideline occupations as well as improvements in the peasants' economic, material and cultural living standards, the ways of production for all professions and industries in the commune and brigade enterprises gradually began to increase. At the same time, because of requirements for production cooperation and management, the great majority of commune and brigade enterprises are concentrated in areas of convenient communications. This naturally occassioned the revival and development of some former market towns and promoted the formation of some new market towns.

Small market towns dot the broad countryside. They are outposts for purchasing agricultural sideline products and are basic links for downward movement of industrial products. Moreover, they are centers of the peasants' cultural and spiritual life. They also are necessary products of commercial and economic development, just like the large and mid size cities. The commercial economy of the Jiangsu countryside is relatively well-developed, so before Liberation there already were over 400 small market towns. At that time, however, except for a few small handicraft industires the rural market towns had no industry to speak of and mainly were collection and dispersal points for urban and rural commodities. After Liberation, and especially after the socialist reforms, state operated commerce monopolized sales and purchases and changes took place in the paths of flow, collection and dispersal of commodities. The role of these commercial market towns was then greatly weakened. Later, under the mistaken influences of "leftism," the commercial economy was rejected, the role of the marketplace was eliminated and there were overly strict controls on marketplace trade. During the collectivization movement a large number of market towns were merged together. The period of difficulty reduced the population of most small market towns and the great majority of them went into decline. At their lowest point there were only 100-some small market towns in the entire province.

During the last ten years and especially since the 3rd Plenum of the 11th Party Congress there has been a large increase in the number of commune and brigade factories throughout the province, and enterprises in other professions and industries also developed during this same period. By 1980, there were 75,575 commune and brigade enterprises in the province, including 59,414 industrial enterprises, 3,586 communication and transportation enterprises, 2,596 construction enterprises, 3,623 tea and other plantation enterprises, 2,563 hog, domestic animal and water product breeding enterprises as well as 3,793 other enterprises. A look at the commune and brigade enterprises throughout the province shows that they are basically complete in the areas of light industry, textiles, machinery, electronics and chemical engineering. These commune and brigade enterprises are scattered throughout the countryside and relatively concentrated in the market towns. This has brought about the revival of a large number of the original, old market towns and has shaped a great number people's communes into a new type of market towns having both industry and agriculture. The renewed concentration of commune and brigade enterprises is an internal requirement of agricultural production development and is the economic foundation for the restoration and development of small cities.

According to statistics the province has 115 county cities and county controlled towns, and over 1,800 commune market towns. The county cities and county controlled towns generally have populations of 20-30,000 people, with large towns having nearly 100,000 people. Commune market towns generally have 2-10,000 people. In southern Jiangsu there are market towns at about every 3-5 kilometers, while in northern Jiangsu there are about 8-10 kilometers between the market towns. The industrial production of small cities and towns currently stands at about 30-plus percent of the entire province's total industrial production value. The province's small towns now have over 2,300 complete middle schools, 40 percent of those in the province; there are over 2,100 culture centers, 45 percent of those in the province; there are 60 libraries, 80 percent of those in the province; there are 200 theaters, 62 percent of those in the province; and there are over 2,200 hospitals, 82 percent of those in the province.

These facts show that the development of commune and brigade enterprises and the relative concentration of market towns in the countryside strongly promotes the construction of small towns. The increase and the broad distribution of market towns simultaneously change the old market towns into new commercial towns, they primarily engage in commodity exchange and provide broader capabilities. The small towns of today not only have begun to form centers of rural economic activity which have suitable production force standards, they moreover are becoming established as centers of peasant cultural and educational affairs, so that the peasants have the potential of deriving a degree of "urban culture" from the samll towns.

A Suitable Path for Common Rural and Urban Economic Development

An overview of the process of commune and brigade enterprise development presents us with the following picture: Large and mid-sized cities such as Nanjing and Wuxi fulfil the role of forming bridges and links between the nearly 2,000 small towns scattered everywhere in the countryside. They form close links between the province's over 1,800 communes, over 34,000 production brigades, 320,000 production teams and over 7,000 commune and brigade enterprises. These links form a tightly woven economic network which unifies the urban and rural economic activities. Of course, this economic network is not limited by local boundaries, but is tied in with the nation's large, mid and small sized cities as well as a great many more small towns, thus forming an economic network having even greater scope and more levels. This can be seen as a new path which suits our province's objective conditions for development of socialist construction of modernization.

1. This is a new path to carry out the balanced, overall arrangement in the cities and the countryside and still avoid excessive industrial concentration and excessive urban population growth. Seven Jiangsu province controlled cities have a population reaching 5.37 million, 63 percent of the province's town-dwelling population. Of these, the population of Nanjing has already reached 2 million, nearly double that during early Liberation. Even after the centralization of industries, the present population of the cities still has a tendency toward excessive increases. Moreover, the large cities are mainly concentrated in southern Jiangsu. The five cities of Nanjing, Zhenjiang, Changzhou, Wuxi and Suzhou on Shanghai-Nanjing Railway Line have concentrations totaling 45 percent of the province's industry and 40 percent of the province's population. In terms of the textile industry, the four cities of Wuxi, Changzhou, Suzhou and Nantong have about one-half of the province's total textile industry production value. Even though industry and the urban population are relatively concentrated, the urban population is still only one-seventh of the rural population. The concentration of the urban population and the spread of the rural population fundamentally represent the

low level of economic development and are an expression of the extremely uneven distribution of industry and towns. With the development of commune and brigade enterprises changes are now beginning to take place. By 1980, the total industrial production value for commune and brigade enterprises had already increased to 24 percent of the province's total industrial production value. Therefore, following this new path will aid in promoting the tendency toward balancing the distribution of industry and towns, and will be beneficial in realizing the potentially great superiority of the countryside. They obviously are necessary for accelerating construction of modernization.

2. This new path is an active force for the consumption of excess agricultural production, for making use of the abundant rural labor resources and for carrying out the rationalization of the rural economic structure. There are less than 70 million mu of arable land in Jiangsu and the agricultural labor force is 19.52 million people, an average of 3.5 mu of land for each person in the labor force. According to calculations from Wuxi county and according to present production conditions, a single labor force can handle 4.5 mu of arable land. According to these figures, over 4 million labor forces should be transferred from the countryside. Obviously, it does not suit our national conditions to have this many rural labor forces flooding into the cities. The more realistic method is to use the development of commune and brigade enterprises to strengthen construction in small towns. The commune and town industries of Suzhou prefecture alone had already absorbed 300,000 laborers by the end of 1980, fully 9 percent of the prefecture's entire labor force. In Wuxi and Wujin counties the communes have each absorbed an average of over 2,300 people. If the nearly 2,000 small towns in the province all are fully constructed, by the end of the century each small town will absorb 2,300 people, which will provide employment opportunities for the 4 million excess labor forces. This method will not only solve the problem of the excess agriculture forces, it avoids having a large number of the rural population flood the cities. Moreover, this eventually will make the rural small towns into centers which will attract people to work and live there. This will truly change the face of the countryside and provide an advanced base for carrying out agricultural modernization.

The process of developing commune and brigade enterprises is the operation of an enterprise in addition to the agricultural operations and is a process of changing the solely agricultural economic structure into one having comprehensive development of agriculture, sideline occupations, industry and commerce and by developing a commodity economy. The statistics for 1980 show that 44.7 percent of the province's diversified economy production value (including brigade operated industries) was filled by the total production value for agriculture, an increase from the 22 percent of 1970. Because of changes in the structure of the agricultural economy potential rural labor forces could be used and the peasants' income generally was increased. At the same time, because of developments in commune and brigade enterprises, small towns increasingly flourished, there were gradual increases of the installations in the rural commercial network, there was progress in broadening the avenues of rural commodity flow, there were increased exchanges of materials and goods between the country and the cities and the rural marketplaces flourished. These are precisely what was needed for the development of agriculture and the enrichment of the countryside.

3. This also is a new path for overcoming prefectural and departmental divisions, dispersing urban industries into the countryside and uniting the cities and the countryside to develop modernization. For a long time, our system of economic management has primarily been administrative management, it is divided by administrative divisions and the administrative system is cut up into bits and pieces. The industrial enterprises do not belong to prefectures. These are manmade divisions which cut the economic connections between the prefectures and between the departments and which severely restrict the development of the socialist commodity economy. At present, the rise of commune and brigade enterprises has stimulated the revival and development of small market towns and has made this economic center of the most basic level of the national economy together with large, mid and small sized cities both in and out of the province into a lively economic network according to the natural needs of economic development. After the gradual formation of this network style of economic structure, a number of city industries and commune and brigade enterprises began to break down the bariers between the prefectures and the departments and strengthened the mutual connections in their commodity economy. In the last two years there have been more and more instances of various forms of economic unity between large and mid sized cities on the one hand and small market towns on the other hand, thus cutting across departments and prefectures. As far as the countryside is concerned, the rise of economic unity between the cities and the countryside has been a process of organizing the abundant rural local resources, including labor resources, for centralization in the small market towns and for cooperation with the large and mid sized cities. As far as the cities are concerned, it is a process of carrying out dispersal of commodities, capital, technology and equipment and management experience into the countryside and small market towns. The joining of these two sides permits the utilization of heretofore unused rural resources and permits the shouldering of an originally small scale but difficult task. This will enable the urban industries to overcome the difficulties of small space and inadequate labor forces, enable them to put their best hand forth and concentrate their strengths on utilizing advanced technology to reach new heights in commodity production.

11582
CSO: 4007/567

BRIEFS

HUAIYIN PREFECTURE GRAIN HARVEST--Jiangsu's Huaiyin Prefecture reaped 8.05 billion jin of grain in 1981, an increase of 1.7 billion jin, or 27 percent, as compared with the 1978 crop. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 12 Sep 82]

YANGZHOU PREFECTURE CROPS--Jiangsu's Yangzhou Prefecture in 1981 harvested 7.7 billion jin of grain. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 12 Sep 82]

CSO: 4007/9

JILIN

BRIEFS

CAPITAL CONSTRUCTION--Jilin Province scored achievements in developing capital construction projects since the third plenary session of the 11th Party Central Committee. By the end of 1981, the number of projects under construction was 1,070, of which 50 were big and medium-sized projects. In the past 3 years, 22 big and medium-sized projects have been cancelled or suspended, curtailing 880 million yuan of investments. The ratio of investments in building non-productive projects, which are used to enrich people's material and cultural livelihood, increased from 17.4 percent in 1978 to 43 percent in 1981. The ratio of investments in light industrial projects increased from 4.3 percent in 1978 to 11.7 percent in 1981. [SK231305 Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Sep 82]

CSO: 4007/9

DELEGATE SPEAKS ON INDUSTRY, AGRICULTURE

SK292243 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 28 Sep 82

[Recorded talk by Zhu Chuan, "delegate to the 12th CPC Congress, Standing Committee member of the Liaoning Provincial CPC Committee and deputy governor," entitled: "Liaoning Should Make New Contributions in the Socialist Modernization Drive"--date not given]

[Text] Comrade Hu Yaobang set forth in his report a fighting goal of China's economic construction for the coming 20 years, that is, while steadily working for more and better economic results, to quadruple the gross annual value of industrial and agricultural production--from 710 billion yuan in 1980 to 2,800 billion yuan or so. This is a great strategic policy decision, an inspiring grand objective. With the objective realized, China will be placed in the front ranks of the countries of the world in terms of the output of major industrial and agricultural production and gross national income; its urban and rural population will have their income increased several times over and its people will be comparatively well-off both materially and culturally in terms of international standards. By that time, our material and spiritual civilizations will certainly take on a new look. In front of the new historical task, Liaoning, as an old industrial base, and its 35 million people should all the more raise their spirit to make new and greater contributions to creating a new situation in all fields of socialist modernization and to the accomplishment of the grand objective of our economic construction.

The superiority of the socialist system and the party's correct leadership imbue us with full confidence to accomplsih the objective. Viewing our situation, Liaoning is provided with many favorable conditions.

1. We have a fairly substantial economic foundation. Over the past 30 years and more, the state has invested about 50 billion yuan in our province. By the end of 1980, the fixed assets of our industrial enterprises amounted to 10 percent of the nation's total, ranking first in the country. Through many years' consistent efforts in replenishment and improvement, our province has gradually become a heavy industrial base with comparatively comprehensive branches, among which iron and steel, machinery and petrochemical industries are the key, of fairly high levels.

2. Our natural conditions are comparatively good. Our coastline is long and 60 percent of our land is mountains and 10 percent water. Mineral and other resources which can be comprehensively utilized to develop a diversified economy are fairly rich.

3. Our transportation is fairly developed. Railways have beem built and highways link up all parts of the province. We have transportation lines to connect with various provinces, municipalities and autonomous regions and have Dalian, Yingkou and Dandong ports to connect with other coastal areas of our country and large ports of the world.

4. We have a comparatively large number of scientific and technical specialized cadres and a fairly high capacity of scientific research. We have more than 300,000 scientific and technical specialized cadres, ranking second in the country. Our natural science research institutes total 309 staffed with 16,000 research personnel. Our research capacities in metallurgical, machinery and petrochemical industries are also ranked as leaders in the country. With these favorable conditions, Liaoning, as an old industrial base, is duty-bound to make new contributions in the socialist modernization drive.

In line with the general principle and plan for economic construction set forth at the 12th CPC Congress and with the actual economic situation in our province, I think we should emphasize the following tasks:

1. We should accelerate our efforts to solve the problems in the three key links--energy, water sources and communications and transportation. We should adopt the principle of paying attention simultaneously to exploration, conservation and [word indistinct] with emphasis placed on conservation to solve Liaoning's energy problem. Our province's energy consumption is high. We have many great coal and electricity consumers and our energy waste is tremendous. Our potential in energy conservation is also great. Provided we raise our energy utilization rate by 1 percent, the province will be able to save some 2 million tons of coal annually. Provided we raise our energy utilization rate from the present 28 percent to more than 35 percent in the coming 10 years, we will be able to save 15 million tons of coal annually. Therefore, we should resort to all possible ways to conserve energy.

2. We should carry out technical innovations in a planned way and with emphasis pinpointed to upgrade our technological standard. Our technological standard is still very low and our equipment, materials and processing techniques are rather backward. Generally speaking, they are of the standard of the 1950's or 1960's. However, science and technology are the key to our modernization. Therefore, we must strengthen our scientific and technological work and conscientiously carry out technical innovations.

3. We should develop the range and quality of production by developing comprehensive utilization in industry and by developing a diversified economy in agriculture. Because our heavy industry occupies a greater proportion with many raw material industrial and large enterprises, our material resources which can be comprehensively utilized are rich. For instance, tailings from

metallurgical industry, tail gas from petroleum refineries and waste gas, waste water and industrial residue from the entire industry are valuable resources for comprehensive utilization. In particular, petrochemical industry is our key point of development which has bright prospects. In developing agriculture, we should bear in mind our characteristics, such as large population and limited land; many mountains and limited plains; and long coastline. On the premise of successful grain production, we should exert great efforts to develop diversified production. We should promote garden-style cultivation of farmland and forests, animal raising and industrialization in agricultural production, and increase step by step the proportion of forestry, animal husbandry, sideline production and fishery in the entire agriculture.

4. We should successfully carry out reorganization of departments and reform of the economic managerial system. Our administrative departments should be streamlined, so that organizational overlapping and the situation of too many policy-making departments can be corrected. We should also reform current economic managerial system. First of all, we should break down the barriers between different administrative departments, reorganize industry in accordance with the principles of specialized cooperation, developing joint enterprises and improving economic results and establish various types of specialized companies and economic complexes. Next, we should formulate policies and establish organs in accordance with our country's distinguishing feature of the coexistence of diverse economic forms with the public ownership of the means of production playing a leading role and with the principle of the leading role of the planned economy and the supplementary role of market regulation, and adopt different measures to successfully manage the different situations in the state, collective and individual sectors of the economy.

In a word, the 12th CPC Congress set forth a definite fighting goal and a series of principles and policies for the future socialist economic construction of our country. As long as we conscientiously study and implement these principles and policies, fully tap our potential, fully boost the masses' socialist enthusiasm and give full play to the superiority of our socialist system, our Liaoning Province will surely make new contributions to the economic development of the country and to the accomplishment of the party's grand objective by the end of this century.

CSO: 4007/9

CHAIRMAN REVIEWS ADVANCES IN REGION

OW191305 Beijing XINHUA in English 1211 GMT 12 Sep 82

[Text] Beijing, 19 Sep (XINHUA)--Inner Mongolia, China's leading stockraising area, has increased the total number of its livestock to more than 42 million head, an all-time record. This is written by Kong Fei, chairman of the Inner Mongolia Autonomous Region, in an article carried by today's WORKERS' DAILY.

He says the autonomous region reaped good summer crops this year and there are good prospects for making the whole of 1982 a successful farming year. The income of the peasants and herdsmen has registered big increases.

The people of Mongolian, Han and other nationalities are striving to build Inner Mongolia into a prosperous area with a high level of culture and unity among the various nationalities, he writes.

He says Inner Mongolia, inhabited by people of Mongolian, Han, Daur, Ewenki, Oroqen and other nationalities, covers 1.183 million square kilometers of land, three-fourths of it being grasslands, accounting for 30 percent of China's total. The forests in the greater Hinggan Mountains and other parts of Inner Mongolia have 900 million cubic meters of timber reserves, one-tenth of the national total. Fertile farmland spreads along the major rivers and at the foot of the mountains. The region ranks first in the reserves of rare earth metals, niobium and natural soda and second in coal, zinc and chromium reserves in China. It is also rich in iron, lead, gold, graphite, mica and other minerals.

Compared with 1947, the year when this China's first autonomous region was founded, the total number of herds in Inner Mongolia in 1981 went up 5.7 times and grain output nearly trebled.

Rapid progress has also been made in industry, trade, education, science, culture and public health. Large numbers of minority people have been trained in various fields of work. The region has become a stockraising and forestry center and occupies an important place in the production of sugar beet, woolen textiles, iron and steel, coal and rare earth metals.

Since the third plenary session of the 11th Central Committee of the Chinese Communist Party in December 1978, Kong Fei writes, efforts have been made to bring order out of chaos, rehabilitate the economy and implement the policies of the party, thus mobilizing the initiative of the cadres and the people.

The party Central Committee has put forward the principle of "giving primary importance to forestry and stockraising while developing a diversified economy" for Inner Mongolia, and set the goal of bringing the region into the ranks of the advanced areas in China in a few decades.

The chairman of the Inner Mongolia Autonomous Region writes: "We will further develop the relations of equality, unity, mutual assistance, fraternity and mutual reliance among all nationalities. We will make use of the existing economic base and promote economic and technical cooperation with other parts of the country so as to develop the region's rich natural resources and speed up its economic construction and cultural development."

CSO: 4020/4

BRIEFS

HAYING OPERATIONS--Jirem League, Nei Monggol Autonomous Region, is vigorously engaging in cutting fodder grass and putting it into storage. As of early September, the league cut over 515 million jin of fodder grass and put over 100 million jin of it into storage. The league plans to cut 1.2 billion jin of fodder grass before the winter. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

LIVESTOCK COLLEGE ANNIVERSARY--On 18 September the Nei Monggol Autonomous Regional Agricultural and Livestock College marked the 30th anniversary of its founding. Arriving at the college to extend congratulations were leading personnel of the regional party and government organs, including Kong Fei, Bu He, Ba-tu-ba-gen, Gao Zengpei, Hao Xiushan, Shi Guanghua and Wu Daping. Over the past 30 years, the college, which was the first agricultural and livestock institute in the region, has had 5,264 graduates; of those, 886 graduates are of minority nationalities. It has provided 259 scientific research projects for agricultural and livestock production. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

GRAIN PROCUREMENT--Wuyuan County, one of the counties in New Monggol Autonomous Region that began to implement the responsibility system rather earlier, had fulfilled ahead of schedule the annual procurement task of 45.5 million tons of grain as of 14 September. Of the grains purchased, 40.7 million tons were wheat, overfulfilling the wheat procurement plan by 150 percent. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 Sep 82]

HARVESTING OPERATION--According to statistics compiled by the departments concerned in the middle 10 days of September, Nei Monggol Autonomous Region harvested 21.51 million mu of crops sowed in the spring, brought 12.35 million mu of crops under threshing operation and threshed 8.52 million mu of crops. In Ulanqab League alone, there are over 760,000 labor forces engaged in autumn harvesting production. [SK301304 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 29 Sep 82]

WHEAT PROCUREMENT--As of 15 September, Ih Ju League, Nei Monggol Autonomous Region, sold 6.15 million jin of wheat to the state and overfulfilled its wheat procurement plan by 2.5 percent, a 2.12 million jin increase over the figure of the corresponding 1981 period. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

AGRICULTURAL TAX--As of 20 September, Bayan Nuir League, in Nei Monggol, had turned over to the treasury agricultural taxes totaling 7.15 million yuan, up 78 percent over the corresponding 181 period and overfulfilling the annual plan by 5 percent. During this year, leaders at all levels in the league have strengthened leadership over the collection of agricultural taxes and improved management in this work. All the peasants, inspired by the 12th CPC National Congress guidelines, have fallen over each other to turn in agricultural taxes. [SK271245 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Sep 82]

AFFORESTATION CONFERENCE--On the evening of 27 September, the Nei Monggol Autonomous Regional Afforestation Committee held a telephone conference to make arrangements for autumn tree-planting work and to call on large numbers of cadres and the masses to promote the region's forestry construction. Speaking at the conference were Kong Fei, secretary of the regional CPC Committee; Ba-tu-ba-gen, Standing Committee member of the regional CPC Committee; and (Ha Lun), vice chairman of the regional Afforestation Committee. The conference pointed out: In developing autumn tree-planting work, we should provide guidance according to local conditions, encourage and support commune members to plant trees individually, concentrate on the quality of afforestation, strengthen the management, protection and fire-prevention of forests and implement the responsibility system in forestry. [SK300031 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 28 Sep 82]

CSO: 4007/9

PROVINCE EMPHASIZES IMPROVEMENT OF RURAL PUBLIC SECURITY

SK240515 Xining Qinghai Provincial Service in Mandarin 2330 GMT 23 Sep 82

[Text] The Provincial CPC Committee held a provincial public security work conference in early September. Participants at the conference conscientiously studied and thoroughly discussed the documents of the 12th CPC Congress and clearly defined the tasks for public security in the new period.

The conference noted: It is essential to deal resolute blows at serious criminal activities which undermine socialism in the economic as well as political and cultural fields, and to attach importance to the improvement of public security. While improving urban public security, great efforts should be made to strengthen the public security work in rural and pastoral areas. Comprehensive measures should be taken to consolidate public security and all measures should be implemented conscientiously.

The conference held: The emphasis of comprehensive means should be placed on helping and educating juvenile delinquents. We should adopt various methods to train them into a new generation who have ideals and moral character and who abide by discipline.

With regard to the consolidation of rural public security, the conference noted: We should attach importance to and greatly strengthen the work to investigate and handle public complaints over civil disputes and nip these in the bud. Resolute blows should be dealt to criminals who damage collective property to a serious extent and those who cause deaths with feudal and superstitious activities for money.

The conference also studied ways to further restore, consolidate and improve grassroots public security organizations, deepen the education in the legal system and [words indistinct].

Comrade Zha-xi-wang-xu spoke at the conference.

The Qinghai Provincial Military District also held a public security work conference in early September.

CSO: 4007/9

BRIEFS

YANAN PREFECTURE AGRICULTURE--Yanan, 21 Sep (XINHUA)--Shaanxi's Yanan Prefecture has developed agricultural mechanization with good results. In the first 8 months of this year, the number of walking tractors sold in the prefecture increased by 141 percent over the same period in 1981. At present, the work for sowing 127,000 mu of rapeseeds has been completed and preparations are under way for sowing 1 million mu of wheat in the prefecture. Some 8.5 million jin of fine seeds of wheat has already been prepared by the seed supplying department. [Beijing XINHUA Domestic Service in Chinese 0011 GMT 21 Sep 82]

AUTUMN SOWING--Shaanxi Province has started autumn sowing. Up to the present, the province has sown wheat on some 5.5 million mu and Yulin Prefecture and the northern part of Yanan Prefecture have basically completed autumn sowing. This year, all places throughout the province have set up some 430 information offices of agricultural technology and some 10,000 specialized wheat production households. [HK281133 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 25 Sep 82]

CSO: 4007/9

BRIEFS

PRODUCTION PROGRESS--In the 20 years before the third plenary session of the 11th CPC Central Committee, Dezhou, Jining, Heze and Liaocheng prefectures, Shandong Province, received over 7 billion jin of subsidiary grains from the state and over 800 million yuan of state relief funds and owed the state over 600 million yuan of loans. However, since the third plenum of the 11th CPC Central Committee, these prefectures have made rapid progress in agricultural production thanks to enacting responsibility systems. Over the past 3 years, they have scored a 480 percent increase in cotton output and an over 100 percent increase respectively in grain and peanut output, and scored an 87 percent increase in incomes amassed in developing a diversified economy. In 1981, they scored an almost 200 percent increase in per capita income over the 1978 figure and a 670 percent increase in the people's bank deposits over the 1978 figure. In 1978, there was not a single brigade among these prefectures that could score over 200 yuan in per capita income. However, there were over 6,300 brigades that scored over 200 yuan in per capita incomes. Of these brigades, those who scored over 500 yuan in their per capita incomes accounted for more than a half of such brigades throughout the province. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Sep 82]

AUTUMN FARM WORK--Inspired by the guidelines of the 12th CPC National Congress, cadres and peasants in rural areas of Shandong Province the plunged into autumn harvesting, ploughing and sowing with great zeal. By 15 September, the province has harvested 28.2 million mu of farm crops and sown 350,000 mu. To date, the province has accumulated 150 million cubic meters of mud fertilizer and 2.48 million tons of chemical and phosphate fertilizer. Over 94 percent of units in the province has introduced the system of responsibility in wheat production. [SK231307 Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 Sep 82]

CSO: 4007/9

BRIEFS

COMMUNE INDUSTRY GAINS, AGRICULTURE LOSES--In the last few years, while industry has expanded rapidly in Malu Commune, Shanghai, agricultural production has decreased. The figures are very convincing. In 1957, the commune's total industrial income was merely 10,000 yuan; by 1980, it had jumped to 38.36 million yuan, a 3,836-fold increase. Sideline production in the same period leaped from 5,000 yuan to 10.59 million, a 2,118-fold increase. From 1978 to 1980, crop yield declined by a big margin. Total grain output dropped from 15 million kilogrammes to 9.7 million, a decrease of 36.4 percent. (The per-mu yield had decreased from 963 kilogrammes to 632 kilogrammes, 34.3 percent less.) In addition, both the total and per-mu yield of cotton and rape were also lower. Malu Commune is well-known throughout China for its high yields. Therefore, this warrants our attention. [Text] [HK260426 Beijing CHINA DAILY in English 26 Sep 82 p 4]

CSO: 4020/4

BRIEFS

GRAIN, OIL TRANSPORT--On the basis of the retention of profits last year, grain and oil transport enterprises in Sichuan Province have adopted the method of assuming responsibility for submitting profits to the state for the whole year. By the end of August, they had submitted fixed profits of 2.57 million yuan to the state and overfulfilled their quota for submitting profits for the whole year to the state by 51 percent 4 months ahead of schedule. The amount of profits submitted in this period was 77.9 percent more than in the corresponding period last year. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 23 Sep 82]

MIANYANG PREFECTURE PADDY RICE--After reaping a big bumper harvest of spring-harvested crops, Mianyang Prefecture has also reaped a bumper harvest of paddy rice. The per mu yield of the 4.79 million mu of paddy rice is 890 jin. The prefecture's total output and per mu yield of paddy rice are 10 percent more than last year and exceed the previous highest levels. The number of peasants in the prefecture is some 11 million. The per mu yield of the 3.2 million mu of hybrid rice in the prefecture this year is 988 jin. Total output of hybrid rice accounts for 44 percent of the total output of paddy rice. [HK290839 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 26 Sep 82]

CSO: 4007/9

MINISTRY MEETING HELD ON DIVERTING WATER

SK250731 Tianjin City Service in Mandarin 0030 GMT 25 Sep 82

[Excerpts] According to TIANJIN RIBAO, acting on a State Council instruction, the Ministry of Water Conservancy and Power has held a meeting this month from the 22d to the 24th to discuss and make arrangements for diverting Huanghe River water to Tianjin again this winter. The amount of water to be diverted to Tianjin this winter will not be less than that of last year. People in our city will be able once again to use river water diverted into our city from a thousand li away by people in Shandong, Henan and Hebei.

From mid-October to mid-January next year, water will be diverted into our city from Weishan Cistern in Liaocheng Prefecture, Shandong Province, and (Panzhuanggan) pool in Dezhou Prefecture. Before that, beginning 1 October water will be drawn off from a Yuecheng reservoir and be diverted into Tianjin through the Zhanghe and Weihe rivers and the southern channel.

The CPC Central Committee and State Council have shown great concern about the water shortage in Tianjin and instructed the Ministry of Water Conservancy and Power to make arrangements for diverting water from the Huanghe River and Yuecheng reservoir in good time. At its meetings in Tianjin, the Ministry of Water Conservancy and Power worked out specific plans for the time, amount of water and management measures regarding the diversion of water.

Li Boning, vice minister of water conservancy and power, presided at the meeting. While the meeting was in session, leading comrades of the municipal CPC Committee and government including Chen Weida, Li Ruihuan, Wu Zhen, Zhao Jun and Liu Jinfeng went to the meeting place to offer their regards to the meeting participants.

CSO: 4007/9

BRIEFS

YELLOW RIVER WATER DIVERTED--Tianjin, 27 Sep (XINHUA)--Yellow River water will be again diverted this winter to China's third largest city--Tianjin which is suffering from a chronic water shortage, according to a recent State Council decision. The first diversion was concluded in January and a total of 450 million cubic meters of water was diverted from the Yellow River last winter. And then rainfall during the summer helped ease the shortage temporarily. However, the city now has a total supply of only 40 million cubic meters, which will last to the end of October. The State Council decision says another 450 million or 500 million cubic meters will have to be diverted from the Yellow River and the Yuecheng reservoir in the upper reaches of the Hai He in Hebei Province in order to avert a shortage this winter. Shandong, Hebei and Henan provincial leaders, plus Tianjin officials, all of them involved in the first water diversion project, recently met in the city to discuss implementation of the State Council decision. [Text] [Beijing XINHUA in English 0241 GMT 27 Sep 82]

CSO: 4020/4

BRIEFS

CHEMICAL FERTILIZER PLANT--Urumqi, 17 Sep (XINHUA)--Construction of the largest chemical fertilizer plant in Xinjiang, a major one in China to be equipped with imported installations, is in full swing, according to the Regional Chemical Industry Department. Located in Miquan County near the regional capital of Urumqi, the modern plant is scheduled to be completed and put into operation in 1985. The plant will use residual oil as raw material and produce annually 520,000 tons of urea. Major equipment for the plant is imported from Japan and West Germany. Construction began on the plant in 1980. Now 58 pieces of equipment, including a methanol washing tower, have been installed, and 27,000 meters of pipes laid. More than 4,000 technicians and workers have been sent by the state from Sichuan and Gansu provinces and other parts of Xinjiang to the construction site to help build the plant. [Text] [OW231301 Beijing XINHUA in English 1233 GMT 17 Sep 82]

EDIBLE OIL SUPPLY--In accordance with the decision made by the State Planning Commission and State Economic Commission at a joint meeting and with the circular of the ministries of commerce and finance, Xinjiang Region decided to supply every commodity grain consumer with an additional 2 jin of sunflower oil besides 5 liang of edible oil as a measure to celebrate the National Day and the (Guerbang) festival. In response to this decision, the regional Grain Department and Financial Department have already issued a circular accordingly. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 28 Sep 82]

CSO: 4007/9

BRIEFS

GRAIN, LARD PROCUREMENT--The Xizang Regional People's Government recently decided to increase the prices of grain and lard and to procure them in a planned way from 1982. The regional people's government pointed out that communes and brigades which reap a bumper harvest must sell more grain and lard to the state and places where production drops due to natural disasters must not be forced to sell grain and lard. Those who volunteer to sell more grain and lard must be welcomed and encouraged. [Lhasa Xizang Regional Service in Mandarin 0000 GMT 27 Sep 82]

CSO: 4007/9

MEETING DISCUSSES AGRICULTURAL DEVELOPMENT

HK280715 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 25 Sep 82

[Summary] The Yunnan Provincial Agronomist Institute, together with the Provincial Economic Research Institute and the Provincial Agricultural Economic Institute, recently held a joint discussion meeting in Kunming on the strategic problem of agricultural development in Yunnan. The meeting took the party's general objective as the guideline and analyzed the existing problems in Yunnan's agriculture. The participants held: "Proceeding from the basic conditions of this province and working out an agricultural development strategy which conforms with the specific conditions of this province is very important and necessary. The reason why agriculture in this province is backward and the agricultural environment is damaged lies in the fact that we have not fully realized the basic role of agriculture in the national economy. In developing agriculture, we once maintained the erroneous guideline of putting lopsided stress on major areas, immediate interests and grain production while neglecting mountainous areas, long-term interests, forestry and animal husbandry." "All this must get close attention."

The participants unanimously held that "if we want Yunnan to become rich, efforts must be made to develop the mountain areas." They said that Yunnan "is a province where mountainous areas account for 90 percent of the total areas. This determines that agriculture is always the foundation for the whole economy in this province and must be strengthened. The province's economic development strategy must give prominence to agriculture, especially to agricultural development in mountainous areas."

CSO: 4007/9

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TITLE: "Studies on High Lysine Maize With Hard Endosperm"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 1-6

TEXT OF ENGLISH ABSTRACT: In the course of converting opaque-2-gene into different background of maize inbreds, we found in some of the derivative lines semi-hard kernels were invariably higher in grain density (i.e. weight/volume) than the ordinary opagues. Both of the kernel types were proved to be homozygous O-2, as shown by their higher lysine content than the dents. The highest level of lysine per kernel ever obtained in one of the semi-hard O-2 inbred was 0.6 percent (see Table 1.) To develop hard endosperm O-2 lines a common source of Mexican Yellow Hard O-2 population obtained from CIMMYT was used as donor parent in crossing with 3 typical O-2 inbreds. The hard endosperm kernels derived from S_1 through S_4 generation were shown to be slightly higher than or nearly equal to the donor parent in lysine content of the kernel. This was also true for lysine/protein ratio and all the other amino acids except glutamic acid, leucine, arginine, and histidine which showed some variation among the combinations (refer to Table 2.) For immediate commercial

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 1-6]

use, we have developed a few opaque-2 hybrids with soft and semi-hard endosperm. The physical and chemical properties of different kernel types of these hybrids and their yield performance were compared with their inbred parents (Table 4.) The data presented here are to be completed further more.

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TITLE: "Effects of Rice Male Sterile Cytoplasm on Major Characters of F_1 Generation"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 4, 20 Aug 82 pp 7-13

TEXT OF ENGLISH ABSTRACT: Thirteen male-sterile lines of heterocytoplasm-homokaryon and their maintainer lines were mated to 2-restorer lines. Preliminary result showed that most of the F_1 generation of sterile cytoplasm had positive correlation on spikelet per plant and total grains per spikelet, negative correlation on setting percentage and weight of 1,000-grains, and no relation on plant height, growth duration,and resistance to rice blast and bacterial blight with the F_1 of their corresponding maintainers. The comparison of the F_1 of sterile cytoplasm in some of the wild rice aborted pollen (WA) and Chinsurah Boro II, which have been widely used in China's rice production, to the F_1 of their maintainers showed an insignificant difference in the following principal traits: grain yield per plant, spikelet per plant, total grains per spikelet, filled grains per spikelet, fertility, weight of 1,000-grain, plant height, growth duration, and resistance to rice blast and bacterial blight. The effects of sterile cytoplasm on the F_1 included not only those on the sterility and cytoplasm but also those on the combination of karyons concerned. The best cytoplasm for production must be selected from the correct combinations by a series of trials so that the influence of sterility on the F_1 generation can be avoided.

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TITLE: "A Preliminary Study on the Hereditary Variations of Yield Components and Plant Height of High-yielding Wheat Varieties Grown in the Lower Yangtse Valley"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTRA SINICA] in Chinese
No 4, 20 Aug 82 pp 13-19

TEXT OF ENGLISH ABSTRACT: Seven high-yielding varieties of wheat (Triticum aestivum L.) grown in the lower Yangze Valley were used in this study to investigate the hereditary variations of 4 yield component characters and plant height. Four row plot with 4 replications in a dibble seeding were studied to determine the genetic variation coefficients (GCV), broadsense hereditabilities, relative genetic advances (GS'), genotypic correlations, and selection indexes. The broadsense hereditability estimates are high for plant height and number of grains per spike, moderate for spikes per plant, and low for weight of 1,000 kernels, and grain yield per plant. The GCV are higher for spikes per plant, moderate for the number of grains per spike, and low for plant height. Since the hereditability estimates and GCV for spikes per plant and the number of grains per spike were higher, single plant selection on these two characters from the 7 varietal populations would be effectual.

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 13-19]

The magnitude of relative genetic advance predicated by the population of 7 wheat varieties showed that the spikes per plant had higher GS', number of grains per spike and grain yield per plant had median GS', the weight of 1,000 kernels and plant height had lower GS'. The number of grains per spike was positively and significantly correlated with grain yield per plant. Weight of 1,000 kernels was negatively and significantly correlated with the spikes per plant. The genotypic and phenotypic variances and covariances entering into the computation of the correlations were used to illustrate the construction of selection indexes in wheat. Various selection indexes were constructed and the expected genetic advance from the use of each was determined. The relative efficiency from the use of the various selection indexes compared with selection for single plant grain yield alone. The efficiency of selection index for single plant yield with single correlated character was not high enough, but with two or more characters included the efficiency was well raised. When a selection index includes the single plant yield itself and other correlated characters, its efficiency is better than that whithout the single plant yield.

AUTHOR: None

ORG: Associate Research Group for Agroclimatological Study of Cropping Systems in South China

TITLE: "Regionalization of Cropping Systems in Rice-growing Regions in South China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 35-42

TEXT OF ENGLISH ABSTRACT: In this study 2 main factors, agroclimate and topography, are combined to elucidate the geographical distribution of cropping systems existing in the southern provinces of China. The meteoroecological models are used for evaluating the rice duration in different cropping systems. Climate guarantee probability (CGP) is calculated by the following formula: $CGP = \frac{\text{rice growing season}}{\text{rice duration}}$ which makes clear the availability of climatic condition to certain cropping systems in southern provinces. According to climatic and topographic conditions, the southern part of China is divided into 3 agroclimatic zones, i.e. (1) double and single cropping zone; (2) double and triple cropping zone; (3) triple and double cropping zone. In these zones, 9 agroclimatic regions and 23 sub-regions are further separated. Climatoecological analyses are made for each zone and region.

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TITLE: "Environmental Effects of Plastic Film for Cotton Field Covering"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 43-50

TEXT OF ENGLISH ABSTRACT: The transparent polyethylene films for cotton field covering produce various effects on the environment. The main effects are decreasing the consumption of the soil heat while increasing the accumulated temperature in the tilth layer and having a compensative effect on the accumulated air temperature. All these contribute to the normal growth and development of cotton during the growing season even under lower temperatures. Therefore, it is suggested that in the first place, the use of the accumulated soil temperature in the tilth layer as an thermal index of the heat necessary for the cotton during its developmental stages may approach more closely the actual state of heat existing in soil. Secondly, the main role played by the plastic film in improving the soil moisture and

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 43-50]

heat results in a series of changes to the environment chemically, physically, and biologically. The plants can develop its yield potential to a maximum under the relatively stable growing conditions recognized as the relatively stable effect. Thirdly, thanks to the comprehenisve effects of plastic films such as increasing the total heat in the field soil, promoting the efficiency of water use from soil, adding the supply of carbon,and letting down more sunlight to the soil surface, improving the solar light utilizing efficiency and significant yield increase; the lint yield increase averages 40-60 jin/mu for the irrigated fields and 30-50 jin/mu for the nonirrigated fields.

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TITLE: "A Study on the Fundamental Rules and Main Technique of High Yield in Jute"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTRA SINICA] in Chinese No 4, 20 Aug 82 pp 51-57

TEXT OF ENGLISH ABSTRACT: The experiment has been conducted for 5 years. The fundamental rules and technique of high yield (1000 catties of raw fiber per mu) in jute can be summarized as follows: An effective density of 15,000-16,000 plants per mu and the production of 14-15 g dry fiber per plant at the harvest stage appear to be crucial problems of high yield in jute. The main techniques of high yield in jute culture are as follows: (1) Choose fertile soil under proper irrigation condition; (2) Use prolific varieties of jute and maintain their growing stage up to 150 days; (3) Apply more manure fertilizer so as to increase the weight per plant; (4) Ensure suitable plant density to get more effective plants (planting density set at 20,000 plants/mu); (5) Prevent lodging for the sake of promoting the development of fiber.

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TITLE: "Experiments on Seed Vigor of Some Vegetable Crops"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 58-64

TEXT OF ENGLISH ABSTRACT: Various methods to test seed vigor of bean, Chinese cabbage, and radish were examined including germination speed, root elongation, dry weight, TTC conductivity, fluorescence, and ATP. All of them showed various degrees of relation to their field performance such as seedling establishment and its growth rate, i.e. the stronger the seed vigor the more uniform the seedling stand. A pronounced effect of seed vigor on field product was shown in the cabbage. A series of experiments have indicated that both the germination speed and root elongation are more correct, reliable, and convenient criteria than the others; the dry weight (to measure the consumption of stored foods in seeds,) though also corrent in itself is not so convenient because it is time consuming; the ATP is correct and rapid and

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 58-64]

may possibly be used in practice in the future. Because of the complexity of the factors influencing seed vigor and the wide variation in field conditions, the authors have considered that no one test is likely to serve best for all crops and, therefore, tests will probably be on a crop-by-crop basis, and even with one crop a combination of several methods may be preferable in some cases to a single one.

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TITLE: "A Preliminary Study on the Take-all of Wheat"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 65-73

TEXT OF ENGLISH ABSTRACT: Take-all of wheat caused by Gaeumannomces graminis var. tritici was reported in our country round about 1952. We have studied all aspects of this disease and its pathogen for 13 years (1969-1982). The typical symptoms of the take-all in different stages of wheat development are described. Black root, black foot (the basal stem), and white head are the principal characteristics for the diagnosis of this disease in the field. The morphological characteristics of the pathogenic fungus, both the vegetative and the sexual stages, are described. The infections of hypae and ascospores in nature, the isolation and cultural techniques of the pathogen together with its infection, parasitism, temperature-tolerance, distribution in soil, and survival-time have been studied also. Besides,

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 65-73]

the take-all decline phenomenon and the integrated control, including rotation, supplementation of phosphorus fertilizer, tolerant varieties, fungicides, and so on, have been infestigated and studied.

6248
CSO: 4011/1

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TITLE: "The Content of Soil Nitrogen and Ways of Improvement in the Loess Region"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Jul-Aug 82 pp 30-35

TEXT OF ENGLISH ABSTRACT: The nitrogen content of soils in the loess region has an obvious range of variation. The average of the nitrogen content is from 0.01 to 0.094 percent. The annual loss of soil nitrogen is estimated at about 5.775-40.65 kg/ha. Based upon the total nitrogen content and the amount of loss, the loess region is divided into 6 zones. Ways of increasing the nitrogen content of the soils are suggested to be growing leguminous crops, developing animal husbandry, and adding chemical fertilizers.

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ORG: Hunan Provincial Department of Water Conservancy

TITLE: "A Preliminary Study on the Silt Carrying Capacity of the Water System of Dongting Lake"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Jul-Aug 82 pp 48-56

TEXT OF ENGLISH ABSTRACT: The annual average of the silt carrying capacity of the water system of Dongting Lake is about 40.593 million tons. The water area of the lake is being gradually reduced due to the serious condition of silt deposit. Dongting Lake, originally the largest freshwater lake of China, is being downgraded to the second place behind Poyang Lake in the matter of size. The trend of the quantity of silt carried by Dongting Lake is rising steadily. In the 70's, it almost doubled that of the 50's. A comprehensive harnessing of small watersheds is the fundamental measure for controlling the silt carrying capacity of the lake.

6248
CSO: 4011/235

AUTHOR: ZHAI Zhongqi [5049 0022 7871]
XU Zhi [1776 2535]

ORG: Both of Beijing College of Forestry

TITLE: "Method of Evaluating the Economic Benefit of Field Protected Forests"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 23 Aug 82 pp 26-32

ABSTRACT: The major objective of protective forest belts is to protect the fields, which are materials of agricultural production. The goal of the belts is to improve the ecological environment of agriculture so as to increase production. The economic benefit of the belts include the increase of agricultural production and the quantity of forest products of the belts. The benefit increases with the formation, coverage, and density of the forests. Thus, the belt is a comprehensive system of complex and multiple functions and when its economic benefit is calculated, considerations must be given to the following: (1) The yield increase of the unit land area; (2) The cost reduction of unit agricultural products; (2) The unit yield increase of fields in a renewal cycle of the forest belt; (3) Other benefits, such as the losses from wind and sand erosion damages prevented by the forest belt. On the other hand the resources and labor consumed by the protective belt must also be taken into considaration. This cost of constructing and managing the forest belt must be distributed from the various benefits, while differences in the species of trees, the structure of the belt, and the technique of pruning, logging, etc. also influence the economic benefits. Equations for calculating all these factors are introduced.

AUTHOR: PENG Weiwen [1756 5588 2429]

ORG: Department of Agriculture, Jiangxi Province Shangyao Administrative Office

TITLE: "Several Problems in the Development of the Work of Cost Computation of Agricultural Products"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 23 Aug 82 pp 50-55

ABSTRACT: Cost computation of agricultural products is an important measure of monitoring and controlling production expenditure and a comprehensive index for evaluating the economic benefit of agricultural production. In the past 2 years, the work of the majority of the cost computation test points has been satisfactory. Under the natural disaster condition of 1980, the grain production of 6 test points remained 636,781 jin, an increase of 0.95 percent over the high yield year of 1979, to demonstrate the effect of the work in promoting yield increase. In the opinion of the author, the following problems still exist, however: (1) The definition of cost of agricultural products; (2) The contents of calculation; (3) The calculation of labor cost; (4) The distribution of labor and materials in the cost; (5) relationship between the major and the auxiliary products in the cost; (6) A cost computation method to suit the responsibility system. Details of these problems are expounded.

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I. GENERAL INFORMATION

CALL FOR ECONOMIC EFFICIENCY IN ENTERPRISE CONSOLIDATION

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 7, 1982 pp 2-3

[Commentary: "Special Commentary on Improving Economic Efficiency in Enterprise Consolidation"]

[Text] Early this year, the party Central Committee and the State Council passed a resolution to carry out an overall consolidation of industrial enterprises. Premier Zhao Ziyang made a speech to the All-China Industry and Communications Conference and placed emphasis on improved economic efficiency as the core of enterprise consolidation. The resolution passed by the party Central Committee and the State Council is perfectly suitable for state farms and land reclamation enterprises. The former Ministry of State Farms and Land Reclamation discussed the issue of consolidating the state farms and land reclamation enterprises at a national conference for the department and bureau chiefs in charge of state farms and land reclamation in March. After the conference, the state farms and land reclamation departments of all provinces, municipalities and autonomous regions issued notices on enterprise consolidation. After the organizational restructuring was generally settled, the General Bureau of the State Farms and Land Reclamation of the Animal Husbandry and Fishery Ministry of Agriculture [newly established], immediately decided that within the next 2 or 3 years the cadres of the organization should be assigned in groups and at different times to participate in the work of enterprise consolidation. This year, four workgroups have been formed and sent to Heilongjiang, Guangdong, Tianjin and Jiangsu reclamation areas to conduct pilot projects and gain experience in enterprise consolidation (including farm, factory and agriculture, industry and commerce combined enterprises).

Since the smashing of the "gang of four," the work of enterprise consolidation in State farms and land reclamation has been carried out several times and has achieved varying degrees of success. From late 1977 to early 1978, the state Council has convened a national state farm work conference and recommended that state farms be consolidated, especially the leading bodies, the staff and workers and the management. At that time, the state farms had serious problems because of the 10 years of chaos. The leadership groups were not skillful, the staff and workers were lax and enterprise management was confusing. After the conference, all levels of state farms and land reclamation departments had carried out, under the leadership of the local party committees and government, a great amount of work in running the state farms, enabling them to gain rapid preliminary progress in production and management. In 1979, China's gross value of industrial and agricultural output, the total output of major agricultural products and the amount turned over to the state under the state farms and land reclamation system all reached new historic levels. Because the state had raised the purchase price for agricultural products, and implemented a financial payment system [a system of payment partly in kind and partly in cash] and a production responsibility system for the state farms and land reclamation enterprises, the management and administration were thereby improved. As a result, a 10-year history of deficit was ended through the realization of a profit of 520 million yuan this year. Furthermore, despite an increased expenditure of over 600 million yuan in 1980, there still were profits of 650 million yuan. In 1981, the Heilongjiang reclamation area suffered especially heavy flooding and drought with great reductions of production, thereby turning the previous year's profits of over 400 million yuan into a deficit of over 300 million yuan. However, by the arduous struggle and fortitude of the broad staff and workers of the state farms and land reclamation system, China still made a profit of 200 million yuan. The number of provinces that had made profits had increased from 18 in 1980 to 25 in 1981. The Jiangsu state farms and land reclamation system also reached the goal in which every farm and factory made a profit.

Nonetheless, we must clearly understand that the production and management standard in the state farms and land reclamation enterprises still are very low and that there are many obvious deficiencies. For example, there were four provinces, municipalities and autonomous regions which suffered losses in 1981. Thirty percent out of the total number of farms throughout the country still suffered losses, with a gross deficit totaling over 400 million yuan. Also in 1981, China's industry netted a profit of about 500 million yuan, but its agriculture suffered over 300 million yuan in losses. This was especially true of animal husbandry enterprises; with the exception of a small number of provincial and regional farms, the majority of provincial and regional farms suffered losses. In terms of the use effect of capital, the output value realized in each 100 yuan of fixed assets was 105.3 yuan in 1979. It was 95.9 yuan in 1981, a decrease of 9.4 yuan. Also in 1979, the output value realized in each 100 yuan of liquid assets was 168.9 yuan, while it was 147.9 yuan in 1980, a decrease of 21 yuan. In 1979, each 100 yuan of fixed assets realized a profit of 5.1 yuan, while it was 7.3 yuan in 1980. For each 100 yuan of circulating capital there were profits of 8.2 yuan in 1979 and 11.3 yuan in 1980. The rate of profit on capital was 3.2 percent in 1979 and 4.5 percent in 1980. Although the capital efficiency was higher in 1980 than in 1979, overall it was still very low. (For 1981 was plagued by natural disasters, and other nonmeasurable factors, so no statistics are given.)

There are a number of reasons for these conditions. We are in the midst of enterprise consolidation and must make conscientious analysis, seeking truth from the facts, learning from past lessons and experiences, take properly directed actions and improve economic efficiency.

The prerequisite for improving economic efficiency is to improve production levels. Economic efficiency can only be improved through production increases, a greater variety of products and an improved labor productivity. Of course, production must be arranged according to the state plan and to market needs. If there is blind production or disregard of the state plan and market needs, even though there may be a great variety of goods produced this will create enormous stockpiles and result in less economic efficiency. Therefore, production developments must go hand in hand with improved economic efficiency.

During this readjustment period, in order to raise the standard of productivity in state farms and land reclamation enterprises, we must focus on content as primary and expansion as secondary and thoroughly and resolutely carry out this policy. According to studies of 15 land reclamation areas, in 1981, the 41 million yuan invested for capital construction was not used in accordance with the state plan. Some areas used the fund for capital construction as production cost, some used up that year's profits and self-owned circulating fund, while some used up or overspent the responsibility system cash surplus or the funds allotted for making changes. If such conditions are not corrected and if capital construction continues to grow this will seriously affect, the implementation of the readjustment policy. In agriculture it will affect our ability to concentrate our forces on increasing yield per unit area now under cultivation; in industry there will be adverse effect on tapping potential, innovation and reform in enterprises currently underway. In the process of implementing comprehensive management of agriculture, industry and commerce, it is necessary to actively develop processing industries which utilize farm product as raw materials. However, it is first necessary to make improvements in agriculture. If agriculture is not improved there will be no solid foundation and the processing industries will be like "cooking a meal without rice" and suffering economic deficiency.

In addition to becoming closely involved with improving production in order to lay a solid foundation for improving economic efficiency, it is necessary to improve management. In recent years, we have implemented financial responsibility systems as well as various forms of production responsibility systems. These have been very successful in strengthening economic accounting, but there are still many gaps in our enterprise management work. Recent investigations of financial and accounting records and materials concerning illegal activities in economic affairs show that the problems are quite serious. According to incomplete statistics from 15 land reclamation areas, 120 million yuan was used in violation of financial and accounting rules, with 18.3 percent of indiscriminate use of the capital, 34.2 percent of unscheduled construction, 16.7 percent of concealing production and reporting less profit, and 7.5 percent of embezzlement and theft, speculation and profiteering. There also were feasting and gift-giving, free spending and waste, using public funds for personal gain, taking public property for personal use and abusing the issuance of bonuses and subsidies. Moreover, because of laxness in the system it was generally not possible to assign responsibility to anyone for the loss of money and property or for the waste and abuses. Therefore, all leadership levels must pay attention to these problems, combining investigation of financial and accounting violations with tackling the criminal economic activities, and making it an important part of the enterprise consolidation efforts. During enterprise consolidation, the truth which has been exposed should be used as a lesson to educate the broad staff and workers for the good of the country and the good of our enterprises, protecting state finances and property from damage and loss. The exposé should also be used as a lesson to promote our superior traditions of an arduous struggle against corruption, never becoming tainted and wage a resolute fight against all activities which violate state financial and economic regulations or damage and misappropriate state funds or property. At the same time, all regulations must be strengthened and rigidly enforced to build the state farms into socialist new enterprises having high levels of both material as well as spiritual civilizations.

According to the demands of the party Central Committee, enterprise consolidation is to be all-encompassing. Consolidation should be done well in "three constructions," namely: gradually construct a democratically centralized leadership system, gradually build rank and file staff and workers that are both "red" and expert, and gradually construct a management system that is both scientific and spiritually civilized in its approach. We should do well to meet the "six demands," namely: correct consideration of the three constructions, superior product quality, high economic efficiency, good labor discipline, quality cultural production and good political work. Our state farms and land reclamation enterprises ought to follow these standards in evaluating each enterprise. If the results do not meet the standards even after consolidation, we must further study so that we do not lower our standards even the slightest.

All levels of state farms and land reclamation departments must classify and prioritize their state farms and land reclamation enterprises under its jurisdiction. For instance, which enterprise should be consolidated first and which enterprise later, making an all-round, comprehensive plan to consolidate step-by-step. This year, there first ought to be consolidation of those "old, big problem" units which have made slow progress in production and management and suffered huge financial losses. Competent work teams should be sent to help the enterprise quickly change conditions. The starting point for consolidation and the techniques to be used for consolidating each enterprise depend on the particular circumstances involved. Some should start with the leadership groups that are engaged in consolidation, some should start with adjustments in management and policy, some should start with strengthening of the production responsibility system, and some should start with consolidation of financial and economic rules and regulations or with an investigation of and an attack upon illegal activities in the economic affairs. In general, the actions should suit the needs rather than to impose arbitrary uniformity. Leadership cadres must personally participate in enterprise consolidation. They must be in the front lines in person and grasp well first-hand information in order to obtain direct experience and promote these consolidating efforts.

The process of enterprise consolidation must strictly adhere to all points of the party plans and policies. Under the leadership of the local party committee and local government there must be complete reliance upon the broad staff and workers to carry out consciencious study and investigations, make complete and realistic analyses of everything and arrive at realistic, and not subjective and partial conclusions, partially avoiding all extremes in their actions.

In consolidation, we should uphold everything that is correct, and correct everything that is wrong. Some issues must be conscientiously studied and researched, made clear of what is correct and incorrect through discussions with staff and workers and approved by the upper level leadership before they can be strictly carried out. For example, in implementing production responsibility system, a question of how to carry out the principle of distribution according to work must be correctly handled according to the relationship between the interests of the state, the enterprise and the individual. There still is the issue of how to develop an economy based on a collective ownership system while carrying out the principle of exchange for equal value. Another issue would be how to promote the staff's and workers' family sideline occupations with assurance that these sideline occupations will not adversely affect the workers completing their primary jobs and in turn jeopardizing the state interests.

Enterprise consolidation will also have social bearing as a result of management profit and loss. In order to accurately calculate enterprise management conditions, the various expenses which should not be shouldered by the enterprises should be itemized individually and specifically. Separate calculations should be made so that these expenses are not included in the profits and losses, and certainly not figured in the production costs. Only by taking out from the enterprise expenditure the costs which the enterprise does not bear can we really show the management and administrative levels of the enterprises.

At the same time that all the state farms and land reclamation departments are conducting test work in enterprise consolidation, they also must make proper arrangements for their regular work. This year, some land reclamation areas suffered many difficulties because of adverse weather and various natural disasters. There also were many labor problems. We must mobilize the broad staff and workers to promote a strong sense of responsibility and strive in all possible ways to fulfill or overfulfill this year's production management plan.

11582
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RURAL FAIRS, MARKETS 'FLOURISHING'

Beijing ZHONGGUO NONGMIN BAO in Chinese 15 Aug 82 p 1

[Article: "Rural Country Fair Trade Flourishes in Wake of Third Plenary Session; Volume of Business of the More Than 40,000 Rural Country Fairs in the Country Amounted to More than 20 Billion Yuan In 1981"]

[Text] In the wake of the Third Plenary Session [of the 11th Party Central Committee], agricultural production has developed, city and countryside trade has become lively, and rural country fairs have increased concomitantly. Today, rural country fairs in the country number more than 43,000, of which somewhat more than 1,000 have been added since last year. In 1981, the volume of business done at rural country fairs amounted to more than 20 billion yuan.

During the first half of this year, commodities sent to market at rural country fairs continued to increase, and both purchases and sales were lively. Statistics from 206 representative rural country fairs in China showed a 440 million yuan volume of business for the first half of this year, a 23.4 percent increase over the same period last year. The volume of transactions in major commodities was also up over the same period last year, including grain by 8.4 percent, edible vegetable oil by 32 percent, pork by 16 percent, hen's eggs by 32 percent, vegetables by 19 percent, tobacco by 25 percent, draft animals by 16 percent, and shoats by 9 percent. Household furniture, civilian construction materials, and iron and wood manufactures also increased greatly. A particularly large amount of small farm implements went to markets, and trading was brisk. Statistics from 17 country fairs in Sichuan showed that as compared with the same period last year, transactions between January and May this year increased 1.5 fold for grain sunning mats, 39 percent for large wicker baskets, 28 percent for carrying poles, 70 percent for winnowing baskets, and 41 percent for night-soil buckets. In Yanbei Prefecture in Shanxi Province, volume of transactions in the means of production during the first half of the year increased 2.4 fold over the same period last year. Manure baskets and hoes, which had formerly been hard to find in markets, could now be bought. As a convenience to commune member's, Ningxia established special small farm tool markets in fairly large fairs. During the first half of the year, the Chengguan Fair in Wuzhong County made sales of 293 hand tractors.

During the first half of this year, the amount of small daily use commodities going to markets also increased. Statistics from 206 fairs in the country show more than double the volume of transactions in industrial products used in daily life during the first half of this year as compared with the same period last year. In Hebei Province's rural fairs, small goods used in daily life such as sundries, metal fittings [nails, wires, hinges, bolts, locks, etc], small knit goods, small toys, and small plastic items enjoyed a 1.4 fold increase in volume of transactions over the same period last year. In Zhejiang Province, volume of transactions in small items used in daily life during the second quarter almost doubled over the same period last year. Prices of most of these small articles were close to or somewhat lower than the state-run retail price, and buyers were fairly numerous. During the first half of this year, prices of goods at rural country fairs were stable. Except for the month of January when prices rose by an average 2.3 percent over the same period last year as a result of the new year and the lunar new year, in all other months the rate of price increase was around 1 percent. Prices were 1.9 percent lower at the end of June than at the end of May. Decline occurred in the price of grain, tobacco, sesame, pork, poultry eggs, vegetables, nuts and fruit, sundries used in daily life, firewood, the agricultural means of production, and livestock.

9432
CSO: 4007/578

METHOD FOR FIGURING ECONOMIC BENEFITS OF FARMLAND IRRIGATION OUTLINED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 3, 1982
pp 39-40

[Article by Sun Hongming [1327 3163 2494]: "Exploration of Methods of Figuring Farmland Irrigation Economic Results"]

[Text] No common conclusion has yet been reached on methods for calculating economic results from use of water resources for farmland irrigation in China. I believe that the economic benefits of water in farmland irrigation should rest on the common principle of the results of production in a socialist society, namely, that the results of socialist production should be to satisfy increase in the people's material and cultural standards of living, and that the most important element in assuring this increase is improvement in the social labor productivity rate. This reflects the relationship between objective cause and effect between society's expenditure of labor and its economic results. Consequently, it is necessary to use, both rationally and highly effectively, production resources and natural resources to increase the results of social production. In this way increases in the social labor productivity rate and improvement in results of all social production, or of individual sectors of production, constitutes a criterion for judging economic results from the use of water resources.

In irrigation, water is the main element in improving the soil's economic fertility. It provides optimum possibilities for assuring consistently high crop yields. Irrigation acts principally to improve the soil, and water also become an intermediate "product" in soil improvement, but not a final product. Thus, water further becomes a basic means of production in irrigation agriculture. To judge the economic effectiveness of irrigation water (or, say, the economic benefit of that portion of water resources used in irrigation) according to the results of agricultural production from the watered area, I believe is methodologically desirable. Therefore, the total benefit per unit of area of irrigated farmland minus the total benefit per unit of area of dryland, under similar conditions (climate, soil, fertility, seeds, closeness, plant protection, tools, and field care), constitutes the economic benefit of irrigation, which is the economic benefit of water in agricultural production. Of course, one may also calculate the economic benefits derived from the use of irrigation on the basis of the difference between the total output value, gross earnings, net income (profit) and value of yields per unit of area provided by watered land and the total output value, gross earnings, net income (profit), and output value per unit of area from dryland. As compared with economic benefits in increased work efficiency resulting from technological innovation in industry, this method of calculation is both simple and easy to calculate.

Results derived from the use of this method to figure the economic benefits of irrigation in several prefectures of Qinghai Province are provided below:

1. Xiaoxiaqu Irrigation Area. Located in Ping'an County in Qinghai Province, this is an old irrigation area in the Huangshui Basin, which underwent reconstruction in 1963 and now irrigates an effective area of 11,000 mu. Irrigation during the first year following reconstruction produced grain (wheat) yields of 400 jin per unit of area (average value for the irrigation area), which subsequently continued to increase to 600 jin (in 1972), 745 jin (in 1975), and 857 jin (in 1979). Meanwhile, during the same period, under the same conditions, dryland yields of wheat amounted to from 250 to 375 jin per unit of area. Economic benefits should be 400 jin--250 jin = 150 jin, and on to 857--375 jin =482 jin.

2. Xiaozao Irrigation Area. Located in the Wutumeiren Xiaozaohuo region of Geermushi in the Tsaidam Basin, it is an inland river system. Rainfall in the area is scant and hot dry winds are frequent. This irrigation ditch area was built in 1970 to irrigate a 4,200 mu area. Under the same conditions, dryland wheat produced yields of 200 jin per mu, but following irrigation yields became 475 jin per mu (irrigation area average), and a maximum of 1,000 jin per mu. Economic benefits of irrigation were 475 jin--200 jin = 275 jin.

3. The Gandu Commune Irrigation Area in Hualong County. Located along the Huang He where rainfall is fairly good, the irrigation area is 13,000 mu. Under similar conditions, dryland wheat yields were 300 jin per mu. Following irrigation, the average yield for the entire irrigation area was 890 jin per mu (in 1980). Economic benefit was 890 jin--300 jin = 590 jin.

4. Beishanqu Irrigation Area. Located in Menyuan County in Haibei Zhou. Designed to irrigate an area of 53,000 mu, in 1980 it actually irrigated 34,900 mu. It is part of the Datong He Basin where there is a fair amount of rainfall and where dryland yields were 250 jin per mu. Following irrigation yields were 400 jin per mu, the economic benefit being 400 jin--250 jin = 150 jin.

The Huangshui Basin, the Huang He, and the Tsaidam region in the province have long hours of sunshine daily, and the soil is good making them good places for development of agriculture. The actual examples calculated in the foregoing show the following: Water conservancy work holds an important position in Qinghai's agricultural production; its role in increasing agricultural yields is tremendous. Were a low average value of 250 jin per mu used to calculate the overall average increased yield per mu of irrigated land as compared with dry land for the province as a whole, the province's 2.8 million mu of irrigated land could grow an additional 760 million jin of grain each year. This shows that the construction of water conservancy in Qinghai has made a tremendous contribution to increases in agricultural production.

Benefits in increased agricultural production of water resources in other areas differ. Intensified research on the benefits of water resources has real value in guiding future water conservancy construction and the development of agriculture.

9432
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NONENGINEERING MEASURES IN FLOOD PREVENTION URGED

Beijing ZHONGGUO SHUILI [Water Conservancy in China] in Chinese No 3, 1982 pp 7-9

[Article by Wang Juemou [3769 0628 5399]: "We Should Stress Nonengineering Measures in Flood Prevention"]

[Text] At present, there are generally two types of flood prevention measures: one type is referred to an engineering type flood prevention measures and the other, nonengineering type flood prevention measures. Included among engineering prevention measures are the construction of water reservoirs, clearing areas for flood retention and storage, dike construction, regulating river channels, opening up of flood diversion channels, and building large pump stations; all the above-mentioned are flood prevention projects. Included among the nonengineering flood prevention measures are flood forecasting and alerts, classification and management of flood areas, flood prevention insurance, and social relief. The popularity of nonengineering measures is due to the large land areas and investment required in engineering measures, especially in large flood prevention projects; some projects even occupy more land than the protected area downstream. Large investments in flood prevention are especially painful for developing countries because they are unable to construct sufficient flood prevention projects in a short period of time. Even in some developed countries, because most projects have been completed on dam sites with better conditions, economic benefits are doubtful from the remaining difficult and high-investment projects with troublesome problems of relocating area inhabitants. Therefore, the nonengineering measures have been more and more stressed with faster growth.

I. Nonengineering Flood Prevention Measures Cooperate With Mother Nature.

Engineering-type flood prevention measures can be regarded as those measures which reshape natural settings; since the natural characteristics of floods are modified by engineering means in order to prevent or reduce flood damage. Nonengineering flood prevention measures are not intended to modify natural flood characteristics; instead, the effects of flood damage are to be relieved in order to reduce the damage; therefore, nonengineering measures can also be called measures cooperating with nature.

Flood forecasting and alerts: Before flooding occurs, forecasts and alerts are transmitted in order that timely urgent measures to avoid flood damage and to hold flood losses to a minimum be taken. Under flood forecasting and alerts, timely measures of flood diversion and storage can be adopted; appropriate flood prevention actions on water reservoirs can be taken; and timely emergency repair of flood prevention facilities and evacuation of area inhabitants can be carried out to cope with the flood. For example, in the case of the floods of July 1981 in the upper reaches of the Yangtze River, at Chongqing Municipality the government took advantage of flood forecasting to order evacuation to safe areas of 220,000 inhabitants as well as moving the industrial plants and governmental organizations along the river banks. Thus, the upheaval of people's lives and property was considerably reduced.

The effect of flood forecasting and alerts is closely related to how accurate and effective the information is. Generally speaking, the higher the forecast accuracy and the earlier it is made, the smaller are the losses caused by the flood. Therefore, we must do our best to improve the technical means of communications and computation in order to enhance reporting accuracy and to extend the effective prediction period.

The classification and management of flood-damage areas: we can base our approach on different flood frequencies and degrees of flood damage to classify flood areas in order to take appropriate measures. In some cases abroad, flood damage areas are classified into three zones: (1) The strictly forbidden zone: no permanent structures are allowed in zones with an average of one flood occurring every 5 years; additions to existing structures are banned. (2) Restricted zone: relatively lower economic-value structures are allowed in zones with an average of 1 flood every 5 to 20 years; these structures should have flood prevention facilities, such as roof platforms and village dikes. (3) Alert zone: structures can be free of restriction in zones with an average of 1 flood for every 20 to 50 years. However, inhabitants in these zones should be alerted; upon receiving flood forecasts or alerts, appropriate actions should be taken.

At present, there are large numbers of inhabitants in most flood zones in China, especially on river banks, in areas of flood diversion and storage, and along river channels downstream from water reservoirs; there are many structures and some are still under expansion. Considerable damage will result if a flood happens. So, it is significant to reduce damage in flood areas by proper classification of flood zones in guidelines or laws with enforcement by management.

Flood prevention insurance: insurance can reduce losses incurred by inhabitants and enterprises in the flood zone; the loss is not paid out all at once but in installments. This can be valuable in stabilizing people's livelihood and social order, as well as in reducing the burdens on the state. For example, during the Sichuan flood in 1981, more than 60,000 yuan of indemnity was paid out by insurance companies to 210 insured households; altogether, 77.28 million yuan of indemnity was paid out to 1,490 commercial and industrial enterprises incurring flood damage.

Additionally, every year inhabitants and enterprises subscribing to flood prevention insurance should pay premiums; thus, they have an awareness of possible disaster. This is what we often said "Be Alert and Overcome Apathy." This can be a relatively effective "mobilization" linking economic benefits. If the amount of insurance premiums can be classified and linked with flood zones, unplanned construction in the flood zone can be effectively restricted. In addition, the purpose of flood prevention insurance is not simple, passive indemnity; more important is the protection from future occurrences. This concept can mobilize more social forces to engage in flood prevention activities and to promote flood prevention.

Social relief: this category serves to mobilize social resources, state resources, or even international resources to reduce flood damage to individuals and collectives in order to restore production as quickly as possible and to reduce damage caused by floods.

China has a relatively rich experience in flood prevention and relief; this demonstrates the superiority of the socialist system, since all area populations unite to extend a helping hand once a disaster strikes; this is self-relief by means of production incomes. The state allocates flood prevention and relief funds for these activities. This is also an important guarantee of China's victory over the years of the flood prevention struggle.

II. Engineering Flood Prevention Measures Should Closely Coordinate With Nonengineering Measures, in order Adequately To Exercise Their Functions.

There are still wide areas in China lacking any engineering flood prevention measures. In these areas, existing flood prevention measures are only nonengineering measures, emergency measures of temporary repair of flood facilities, and evacuation from floods upon receiving flood forecasts and alerts. Even in areas with engineering measures, their implementation relies on close coordination with nonengineering flood prevention measures.

After 32 years of difficult struggle, China has built many dikes, water reservoirs, and flood prevention projects. It has cleared flood retention and storage areas and constructed dikes to increase considerably the flood prevention capability of rivers. However, flood prevention standards are still low. Once there is a very high-water-mark flood, we only can ensure project safety and reduce flood damage by emergency measures of temporary repairs to flood facilities based on flood forecasts and alerts. In Japan, standards of flood prevention designs are not high; generally, concrete dams are designed for large floods which occur once every 100 years; earth and masonry dams are designed to withstand large floods occurring once every 200 years. The Japanese approved standard for floods is an addition of 20 percent to their design standard. However, the Japanese closely empahsized building automated systems, such as hydrological sounding and reporting, as well as communications dispatch, capable within a few minutes, of flood forecasting and alerting together with the corresponding dispatch measures. These nonengineering flood prevention measures can make up for the deficiency of lower standards in construction projects.

The dispatch and operation of flood prevention projects should be coordinated with nonengineering measures in order to gain the maximum economic benefit. For example, in flood prevention dispatch of water reservoirs, the reservoir water may be drained in advance, based on flood forecasting to vacate flood prevention capacity in the reservoir in order to reduce the flood flow when it comes.

Reservoir drainage can be controlled based on flood forecasts in the upper and lower reaches of the reservoir in order to moderate the flood peak downstream for safety's sake. Operations in the zone of flood retention and storage should also be conducted in this way so that flood forecasts and alerts as well as analysis of water situation should be consulted to see whether and when the flood prevention operations should begin, how much flood diversion is necessary, when prevention operations should be suspended, and when the inhabitants in zones of flood retention and storage should be evacuated. Appropriate activities should be taken for the best effects. Otherwise, damage will still occur even with these flood prevention projects.

III. We Must Stress and Strengthen the Buildup of Nonengineering Flood Prevention Measures.

Over a considerably long period, restricted as we are by scientific and technical levels as well as by financial and material resources, we are unable to completely control mother nature; this is so in the case of flood control. Therefore, in the struggle against nature (including combating floods), we should not only study and reform nature, but also pay close attention to studying how to cooperate with nature. In the coming construction of flood prevention projects, except for meeting the requirements of the national economy and the construction of some necessary flood prevention projects, we should pay more attention to the study and reinforcing of nonengineering flood prevention measures by cooperating with nature.

In nonengineering flood prevention measures, some (such as the classification and management of flood-damage zones) require the drafting of rational approaches advanced by water conservancy departments; the state promulgates rules and policies with emphasis on management authority for strict execution. The water conservancy departments should be coordinated with other departments and social circles to execute some measures, such as flood insurance and social relief. China still lacks experience in some measures requiring the trial-and-error approach. However, flood forecasting and alerting measures are relatively established; this is the most important and the greatest effect in nonengineering flood prevention measures. This is also one flood prevention measure with the most rapid advances worldwide.

At present, long-term flood forecasting worldwide is not yet established and cannot be used as the basis of flood prevention measures. At present, we still rely on short-term flood forecasting based on precipitation amounts and water situations in the upper streams. However, the forecasting period is very short in some rainstorm areas and mountains, especially in the medium-sized and small valleys in the case of short-term flood forecasting. Thus, we frequently are unable to meet the requirements of flood prevention measures. In order to extend the effective flood forecasting period, in some countries automation systems were established in key flood prevention areas and at important water conservancy projects; these systems include flood sounding and reporting, communications dispatch, and flood alerts using advanced means of communications, such as ultrashort waves, microwaves and communications satellites (in some cases) to collect information on rainfalls, water and repair acitivites by remote sensing stations, as well as the transmission of forecasting and alarm and dispatch of repair activities.

Since the spacing of hydrology remote sensing stations at present is still unable completely to cover the needs of rainfall information in river valleys, rain-gauging radars have been used in the United States and Japan in principal rainstorm and flood areas. By now, rain-gauging radar can supply data to enable indoor displays or printouts of quantitative rainfall distribution of more than 30,000 square kilometers of valley area; the data are as accurate as having a rainfall station for each 200 square kilometers; the data also indicate the qualitative rainfall distribution over more than 120,000 square kilometers. In recent years, in the United States a satellite cloud atlas was used to estimate the rainfall distribution in a larger area. These techniques play a major role in understanding the variability of rainfall in space and time, in enhancing accuracy in flood forecasting, and in dispatching flood prevention operations. In some countries, these means of communications provide linkages between flood forecasting, automatic control of water conservancy projects, and the automatic flood alert system. In the case of Japan, these automatic flood alert systems have been installed on 107 rivers. Generally, these systems are linked with an electronic computer, which processes this collected data; so the processing of the collected data and forecasting of the dispatch calculation are very rapid, usually only several minutes for the entire process. This not only considerably enhances the effectiveness of flood forecasting, but also improves forecast accuracy.

Flood forecasting accuracy in China advanced rapidly from several points to wide area since the liberation; flood forecasting played a major role during the years of the flood prevention struggle. However, the technical means of flood forecasting is still relatively backward; generally, telephones and telegraphs in the posts and telecommunications system are used to collect water information and dispatch flood prevention activities. Manual work is involved in flood forecasting, dispatch and computation. Usually, 4, 5 or even more hours are required to carry out flood forecasting and process computation. This technique of flood forecasting cannot meet the requirements of flood prevention, especially the requirements of relatively fast flood flows and areas in need of urgent flood prevention activities.

One characteristic of flood prevention in China is that the elevations of areas in the middle and lower streams of major rivers are located below the flood water level of these rivers. Generally speaking, protection against flood relies on more than 160,000 kilometers of dikes and many zones of flood retention and storage. The threat from flooding in these areas is quite high; the safety or flooding of these areas affects China's performance in the national economy. Therefore, the mission of flood prevention is quite important with a long line of flood defense. Secondly, the rainstorm flood has high water levels and its arrival is swift in some key areas of the middle and upper streams of major rivers; this situation is critical in flood prevention characteristics to improve China's flood forecasting and alerting system with planning and priority. For the time being, we still must rely on existing facilities of the posts and telecommunications system to better exploit their potential in flood prevention. Additionally, we should sufficiently utilize microwave trunk lines completed in recent years by the posts and telecommunications system. Our water conservancy departments are unable, or find it unnecessary, to install exclusive trunk lines. However, at the key river sectors of flood prevention in the middle and lower streams of China's major rivers, such as the middle and lower streams of the Yellow River, the sector from Yichang to Hankou of the Yangtze River, the trunk of Huai River, areas of the Yi and Shu Rivers, and the middle and lower streams of the Hai River, the water conservancy departments can build exclusive microwave branch lines at the key aforementioned flood prevention river sectors if the posts and telecommunications system has not considered building microwave networks. Next, in some key flood prevention areas mentioned above, flood sounding and reporting as well as an automatic system of communications dispatch (better yet, rain-guaging radar) should be gradually installed; a flood alerting system should be operated on a trial basis in key areas of flood diversion and storage. In some provinces (municipalities or regions) with the heavy task of flood prevention or with key water reservoirs, trial operation of an automatic system of flood forecasting and communications dispatch should also be started. This work should be included in the long-term plan of water conservancy departments, regarded as an item of capital construction. By spending a certain amount of water conservancy funds to emphasize this work, we can gain the best return of benefits while eliminating damages at minimum costs when compared to funds required for construction facilities.

10424
CSO: 4007/573

RURAL ECONOMY REPORTED THRIVING OVER 3 YEAR PERIOD

Beijing ZHONGGUO NONGMIN BAO in Chinese 19 Aug 82 p 1

[Article: "All Around Development of the Country's Farming, Forestry, Animal Husbandry, Sideline Occupations, and Fisheries, and General Increase in Peasant Income; Policies in the Wake of the Third Plenary Session Show Tremendous Power"]

[Text] The correspondent recently learned from the Ministry of Agriculture, Animal Husbandry and Fishery that since the Third Plenary Session of the 11th Party Central Committee, the country's agricultural production has achieved sustained and steady all around growth. This trend of development, which is currently in the ascendant, is such as has rarely been seen since founding of the People's Republic.

The Third Plenary Session of the 11th Party Central Committee convened in December 1978 conscientiously summarized the lessons of experience in agricultural production since the founding of the People's Republic, corrected leftist errors, put forward various rural policies for the present stage, and adopted various major policy measures for hastening development of agriculture. CPC committees and people's governments in all jurisdictions assiduously put into effect an honoring of the self-determination of production teams, institution of agricultural production responsibility systems, readjustment of the rural economic structure and production patterns, development of economic diversification, revival of country fair trade, and increase in procurement prices paid for agricultural products as a series of policy measures to enliven the economy and arouse the enthusiasm of the broad masses of peasants, eight hundred million peasants produced contentedly and diligently.

First was to get all around development of agricultural production. Despite the frequent disasters encountered between 1978 and 1981, gross output value of agriculture annually increased at a rate of 5.6 percent to exceed the average speed of 3.5 percent annual growth between 1953 and 1981, presenting a thriving scene of all around development of farming, forestry, animal husbandry, sideline occupations, and fisheries.

Comparison of major farm product output in 1981 with 1978 shows the following: Grain up by 6.6 percent and for cotton, oil-bearing crops, sugarcane and sugarbeets, increases of 36.9, 95.6, 40.5, and 135.4 percent respectively, all of which were all time highs since founding of the People's Republic. Mulberry silkworm cocoons, tea, tobacco, and such economic crops also showed large increases.

Particularly gladening was that the country's grain output broke through a sustained situation of fluctuation. For a period of time prior to 1978, it had fluctuated for a long time around the somewhat more than 500 billion jin mark, but during the past 3 years, despite increases and decreases, grain output broke the 600 billion jin mark. In 1979 and 1981 output was the highest and second highest since founding of the People's Republic. This year's summer grain crop was up again over last year. Average amount of grain per capita also increased from the somewhat more than 500 jin prior to 1978 to somewhat more than 600 jin. In 1978 China had to import grain, cotton, edible oil, and sugar, Now, however, except for the continued import of some grain needed for readjustment of the structure of agriculture, as a result of great increases in output, cotton and sugar imports have decreased over the years, and in 1981 edible oil was exported rather than imported.

During the past several years livestock industry production has also flourished for a new situation of all around increase. A comparison of 1981 with 1978 shows total national output of pork, beef, and mutton up by 47.2 percent, and a 59.6 percent increase in foriegn exchange earnings resulting from the export of livestock and poultry products and of some processed products. Volume of exports of hog bristles, hog casings, rabbit fur, rabbit meat, honey, feathers, and goat hair were the highest in the world.

For acquatic products, between 1979 and 1981 output of freshwater fish rose 30 percent over 1978 for the greatest consecutive 3 year increase since the 1960's. Rearing of certain traditional marine products is gradually being revived and valuable varieties that can be provided for export such as prawns and scallops have been developed.

Since the Third Plenary Session, annual gross output value of commune and brigade enterprises has averaged a 16 percent speed of incremental increase to become a powerful mainstay in the consolidation and development of the rural collective economy. As a result of readjustment and reorganization, in 1981 the number of enterprises and personnel in them were fewer, yet total earnings still increased by 12 percent over 1980, amounting to 67 billion yuan.

Changes have also been remarkable in the state farm and land reclamation system during the past 3 years. Ever since the Third Plenary Session of the 11th Party Central Committee, state-owned farms have carried out a readjustment, and production has attained all around development. The year 1979 brought an end to the loss situation that had endured for more than 10 years, with profits of 397 million yuan. In 1980 again there were profits of 660 million yuan. For the 2 years, total output of grain (including soybeans) and commodity grain increased by more than 1 billion jin. Industry and agriculture's gross output value increased 5.6 percent. During 1981, 44 percent of the cultivated area in state farm and land reclamation zones sustained disasters, but apart from a decline in output of grain and stud hogs, production by all sectors of the national state farm and land reclamation system rose. Industrial and agricultural gross output value increased 0.2 percent for profits of more than 200 million yuan. In addition, in production a start was made to move away from farming alone into diversified farming, industrial, and commercial activities.

During the past several years a "craze for science" has taken place in rural villages, with peasant enthusiasm for studying science and using science reaching unprecedented heights. Gradually traditional production experiences are gradually being combined with modern science. In rural villages, in order to meet the need for scientific farming, all kinds of organizations for the popularization of science have hurried to organize technical forces to send scientific and technical knowledge and achievements into rural villages. The work of disseminating agricultural science and technology has developed rapidly in rural villages throughout the country. Agricultural education work is also being revived and developed. The CPC Central Committee and leaders at all levels pay close attention to the "investment in intelligence." It may be seen that a new era is arriving in which China's agricultural production and rural construction depends on modern science and technology.

Accompanying implementation of the party's rural policies has been fairly rapid development of the rural commodity economy, and the rural economy has come alive. Commune member private plots have been restored and encouragement and support given household sideline occupations. There has been a liberalization of country fair trade for a revival of traditional rural markets and fairs such as early markets, pre-dawn markets, night markets, night fairs, mountain markets, old style fairs, and horse and donkey markets. Large and medium size cities, including Beijing, have made special efforts to open farm trade markets within their municipal areas in which the lines of goods are complete, numerous varieties of agricultural sideline products are offered, and in which commune and brigade industrial products and native specialties are displayed in large numbers for an expansion of the exchange of goods, to supplement goods not available from state-owned businesses, and to satisfy the needs of the masses in daily life in an unprecedented flourishing of city and country markets. Statistics show the volume of business in country fair trade to have increased 68.6 percent between 1978 and 1980, and in 1981 the volume of trade increased again.

The excellent situation in China's rural villages during the past more than 3 years has been manifested in a concentrated way in a general increase in peasant income and remarkable improvements in standards of living. In 1981 national average per capita income from collective distributions for the agricultural population reached 116.20 yuan, a 31.3 percent increase over the 88.50 yuan of 1978. In 1981 average per capita purchases of consumer goods by rural residents was 117.40 yuan, an 85 percent increase over the 53.90 yuan of 1978.

In places where natural conditions are good and agricultural resources fairly abundant, and in large suburbs and frontier pastoral areas, during the past 3 years some communes and brigades have become wealthy. In 1979 production brigades throughout the country in which commune member average per capita earnings from collective distributions amounted to more than 300 yuan numbered 1,622. In 1980, this increased to 5,569, and in 1981 to 10,943, a 96.5 percent increase over 1980. In addition, substantial turn for the better occurred in a number of brigades and communes that had for long been poverty stricken. In 1980, 72 of the country's 210 impoverished counties in which average per capita distributions had been below 50 yuan for 3 consecutive years broke out of their impoverished state for the first time. Average per capita consumption figures for commune households rose 27.27 percent between 1978 and 1980, and the nature of expenditures also improved. Survey of income and expenditures by more than 18,000 commune member households in 536 counties showed the number of hardship households averaging net per capita annual incomes of less than 100 yuan had fallen from 33 percent in 1978 to 10 percent in 1981.

Between 1978 and 1980 newly built rural housing amounted to 900 million square meters, and in 1981 another 600 million square meters of new housing was built, the amount increasing year by year.

Overall, during the past more than 3 years rural development has been heartening and encouraging. Facts have provided a potent reply to the following issue: The socialist system is genuinely superior. With correct programs, policies, and measures, it is able to stir the enthusiasm of the broad masses. Our socialist endeavors hold great hope.

9432
CSO: 4007/579

GREATLY INCREASED GRAIN PROCUREMENT REPORTED

Beijing RENMIN RIBAO in Chinese 11 Aug 82 p 1

[Article: "Number of Anhui Counties Making Sales to the State of 100 Million Jin of Commodity Grain Increases to 40, Amounting to More Than Half the Counties in the Province; Twenty Counties Provide More than 200 Million Jin of Commodity Grain; Institution of a Responsibility System Whereby Production Is Contracted to Households Has Rapidly Transformed a Poverty Stricken and Backward Situation"]

[Text] During the 1981 grain year (from 1 June 1980 until 31 May 1981), the number of counties in the province selling more than 100 million jin of commodity grain to the state rose to 40 from the 22 during the 1977 grain year. This amounted to more than half the total number of counties in the province, twelve of which provided more than 200 million jin of commodity grain. After the 1982 grain year began, enthusiasm for selling surplus grain ran high among the peasants, and everywhere in the province the grain procurement situation was even better than last year.

Among the counties that sold more than 100 million jin of commodity grain to the state, quite a few had developed production only slowly in the past, and had eaten grain provided by the state or grain resold to them. As a result of the disturbance caused by "leftist" ideology in the past, these counties had long been unable to change their poverty stricken and backward situation, and commune member problems in getting enough to eat and to wear had not been solved. After the Third Plenary Session of the 11th Party Central Committee, these counties instituted the contracting of production to individual households and the contracting of work tasks to individual households at a fairly early time. As a result, they made a new beginning fairly quickly, and manifold increases occurred in both grain output and the amount of commodity grain provided the state. Between 1963 and 1977, Chuxian Prefecture had never been able to fulfill its more than 500 million jin state procurement and excess procurement grain quotas, but in the 1981 grain year it provided the state more than 1.36 billion jin of commodity grain. Each of seven counties in the prefecture sold the state more than 100 million jin of grain. Long famous as a poverty stricken county, Fengyang County ate grain resold to it by the state for more than 20 years following liberation, but in the 1981 grain year it sold the state 235 million jin of grain. Formerly, in a year of good harvest, Tianchang County was able to sell the state only 60 or 70 million jin of grain, but in the 1981 grain year it sold the state more than 300 million jin. Huaiyuan County on the banks of the Huai He sold somewhat more than 130 million jin of commodity grain to the state in 1977, but in 1981 this increased to more than 390 million jin, making it the county in the province that sold the most commodity grain to the state.

9432
CSO: 4007/578

PROGRESS ON WATER, SOIL CONSERVATION REPORTED

1982 Semi-Annual Status Report

Lanzhou GANSU RIBAO in Chinese 19 Jul 82 p 1

[Text] The province has made very good achievements during the first half of this year in its water and soil conservation activities centering around afforestation and the planting of grass and emphasizing control of small drainage areas. As of the end of June it had completed control of an erosion area of 1,060 square kilometers. An area of 1,16 million mu had been afforested, and a mountain area of more than 98,000 mu had been closed to permit forests to grow. Grass was planted on more than 220,000 mu of bald mountains and barren slopes, and the number of level terraced fields, level strip fields, compacted sandy fields, and dammed ravines built greatly increased over the first half of last year. This year 649 small drainage basins were listed as the principle areas to be controlled. The area planned for control covered 410 square kilometers, and during the first half of the year 277 square kilometers of it had already been completed. This amounted to 67 percent of the planned task, and 58 percent more was completed than during the same period last year.

Editorial Comment

Lanzhou GANSU RIBAO in Chinese 19 Jul 82 p 1

[Article by Commentator]

[Text] Recently the State Council published "Regulations on Water and Soil Conservation Work," and diligent implementation of these "Regulations" is extremely important for Gansu Province. Erosion in the province is serious. The total amount of silt entering the Huang He annually amounts to more than 50.07 billion tons. Though definite achievements were made following Liberation thanks to the arduous efforts on the part of the broad masses of cadres and people, as a result of the "leftist" disturbance much reckless clearing of land and excessive digging was done and natural cover destroyed in the process of harnessing rivers and mountain streams. There was much putting on of airs and practice of formalism. Engineering measures were emphasized and biological measures slighted. In an effort to do much in a great hurry, blind and rash actions were taken that violated both natural and economic laws causing great losses in water and soil conservation work. In recent years quite a few places have slackened efforts in water and soil conservation work. Large tracts of fertile soil go billowing toward the sea. In some places bare rocks protrude; it has become hard for a drop of water to soak in, and not a blade of grass will grow. Therefore, the water and soil conservation task that stares us in the fact is still a very major one. Leadership cadres at all levels must understand the important significance of water and soil conservation and adtop effective measures to do a good job of water and soil conservation work.

Since Liberation, Gansu Province has accumulated much valuable experience in water and soil conservation work, and every jurisdiction should diligently summarize experiences from their own realities. Experiences in water and soil conservation that have been found workable and effective for many years should be spread. Right now, special attention should go to a close combination of engineering and biological methods, with projects being built before afforestation is done so that living plants will protect projects and projects will protect living plants for mutual advancement, to hasten the pace of control, and to improve economic benefits.

How water and soil conservation work is to be developed following institution everywhere of agricultural production responsibility system is another problem urgently requiring study and solution. For example, organization of leadership, disposition of workforces, assignment of quotas, compensation for labor, distribution of earnings, etc. all require that methods be devised. Some places already possess some experience in this regard, such as use of centralized planning in capital construction of farmland, leaving some land for the peasants use, centralized assignment of workforces, and concentrated efforts toward control. Alternatively there can be voluntary participation in control by groups of households working together, or quotas may be assigned brigades or households, each being responsible for work in their own areas with apportionment of benefits. In afforestation and the planting of grass there can be either centralized planning done by the collective for afforestation and the growing of grass with communes and brigades providing seeds and seedlings, commune members providing the labor, and earnings divided, or there can be assignment to commune members of "three barren lands" with benefits from them going to those who plant them. No matter the method instituted, responsibilities are to be clearly defined, compensation reasonable, and efforts unflagging so that the masses realize real benefits. Only in this way will it be possible to arouse the enthusiasm of the broad masses for large scale water and soil conservation to gain good effectiveness.

9432
CSO: 4007/581

HALF YEARLY RURAL LOAN SITUATION REVIEWED

Lanzhou GANSU RIBAO in Chinese 4 Aug 82 p 1

[Article: "Province Issues 270 Million Yuan in Loans For First Half of Year Two Million Commune Member Households Get Loan Support"]

[Text] "Loan amounts large and coverage broad, things supported numerous, and economic benefits remarkable." These are the fundamental characteristics of the province's agricultural loans for the first half of this year.

Gansu's agricultural loans for the first half of this year differ in five particulars from those of former years as follows: One is a tremendous increase in loans, the accumulated total of agricultural loans issued during the first half of the year being 270 million yuan, a 48.6 percent increase over the same period last year and close to the total amount issued during all of last year. Second is the broad coverage of loans. Commune members in the province receiving loans numbered close to 2 million households, which was 60 percent of all farm households. Volume of loans issued them was 174 million yuan, a 1.74 fold increase over the same period last year for an average of almost 90 yuan per household, most of which were poverty stricken households facing economic hardships. Third, was that while supporting grain production, loans for economic diversification also increased. According to statistics, between January and June loans issued for economic diversification totaled more than 71 million yuan to support development of more than 100 different kinds of ventures. Fourth was support to the struggle against disasters with 36 million yuan being issued for commune member livelihood throughout the province. This was a twofold increase over the same period last year and included 10 million yuan of loans for grain rations, a 13-fold increase over the same period last year, and more than 140 million for help to disaster area commune members in buying grain rations. Agricultural banks and credit cooperatives at all levels instituted the "four to the doors" to meet the needs of the contracting of work tasks with individual households as follows: Delivering to people's doors of publicity on policies, visiting people's door to make thorough investigation, going to people's doors to make loan plan arrangements, and going to people's doors to handle loan procedures. They also used methods such as "loan handbooks," "loan cards," and single approval of loans for issuances at separate times. They streamlined procedures to accomodate the masses and to support production to outstanding effect.

9432
CSO: 4007/581

USES, PLANTING OF RED BEAN GRASS REPORTED

Lanzhou GANSU RIBAO in Chinese 21 Jul 82 p 2

[Article: "Trial Planting of Red Bean Grass in Gansu Province Has Spread to 24 Provinces and Regions"]

[Text] Following small area trial plantings by the Gansu Agricultural University that brought good results, red bean grass [Onobrychis viciaefolia] which has been acclaimed by foreign pasture experts as the queen of pasture grasses, has been generally welcomed in farflung arid and semi-arid areas, and has spread to 24 provinces and regions.

Red bean grass originated in France and spread throughout Europe, North Africa, and west and south Asia. It also grows wild on the semi-shaded slopes on the north side of the Tian Shan in Xinjiang Province at between 1,000 and 2,000 meters above sea level. In 1960, Gansu Agricultural University brought it in from the USSR for trial plantings. Following many years of growing and evaluation, results shows red bean grass to produce high output of good quality, of strong adaptability, and of good palatability. It is easy to grown, and is bothered by few diseases and insect pests. It is truly a superior pulse family pasture grass that has attracted the interest and serious attention of agriculture departments nationally.

In 1978 the Animal Husbandry Bureau of the national Ministry of Agriculture allocated funds and commissioned the Gansu Agricultural University to establish the country's only red bean grass seed base. By the end of 1981, by using mixing and selection methods, they had bred a superior variety of red bean grass, Changcheng No 1, and obtained more than 12,000 jin of seeds. They provided these superior seeds to more than 250 production and scientific units, and to institutions of higher learning in 24 of the county's provinces and regions to lay a foundation for its promotion over wide areas in arid and semi-arid regions.

In addition to its main use as a livestock feed, red bean grass also makes a fine green manure, a plant for soil and water conservation, and a source of nectar, which has been welcomed in the country's farflung regions. Red gean grass has a long blossoming season. Its flowers have a brilliant color, making it a plant for flower gardens and courtyards to delight the eye and be admired.

9432
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JIANGSU

STATISTICS PROVIDED ON STATE FARM, LAND RECLAMATION SYSTEM IMPROVEMENTS

Beijing ZHONGGUO NONGKEN [STATE FARMS AND LAND RECLAMATION IN CHINA] in Chinese No 8, 82 p 11

[Article: "Changes in the State Farm and Land Reclamation Economy in Jiangsi as Shown in Figures"]

[Text] 1. Remarkable Improvement in Economic Effectiveness

The Jiangxi provincial farm and land reclamation system has turned losses into profits for 3 consecutive years beginning with 1979. In 1981 net profits amounted to 15.75 million yuan, an 89 percent increase over the previous year, and 27.15 million yuan was paid in taxes to the state, a 19.27 percent increase over the previous year.

2. Amounts of Farm and Forestry Sideline Product Commodities Increase

In addition to having provided the state with 96.63 million jin of grain, 1.6 million jin of ginned cotton, 2.14 million jin of oil-bearing crops, 1.74 million jin of eggs, and 230,000 cubic meters of timber in 1981, the province also provided more than 40 kinds of products for the foreign export trade. Export commodities were valued at 55.34 million yuan, a 28.7 percent increase over the previous year.

3. Fairly Rapid Speed of Increase in Industrial Production

The gross output value of industry reached 298 million yuan in 1981 and amounted to 66.83 percent of the gross output value of agriculture and industry combined, an 11.1 percent increase over the previous year, and a 48 percent increase over 1978. Some products represented a fair proportion of the province's totals such as monosodium glutamate, which accounted for 40 percent; down manufactures, which accounted for 90 percent; activated carbon, which accounted for 90 percent; ceiling fans, which accounted for 66 percent; and woolen yarn, which amounted to 56 percent.

4. Integrated Agricultural, Industrial, and Commercial Enterprises Make New Strides

In 1981 the province's state farm and agricultural system established 17 integrated companies at all levels participated in by 60 reclamation and cultivation farms, and set up commercial network outlets at 167 places employing 1,481 people, volume of goods sales amounting to 29.78 million yuan with profits of 640,000 yuan.

5. Further Improvement in Staff and Worker Livelihood

In 1981 earnings of staff and workers in state farm and land reclamation enterprises in the province averaged 506 yuan, an 18 percent increase over 1979. This represented a 20 percent increase over 1979 when figured on the basis of an average per capita income of 250 yuan for the population as a whole. During the last 3 years, 330,000 square meters of new dormitories for staff and workers have been built.

9432
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ANIMAL-DRAWN CARTS FOR TRANSPORTATION URGED

Shenyang LIAONING RIBAO in Chinese 30 Jul 82 p 3

[Article: "Need To Make Full Use of Role of Animal-Drawn Carts in Rural Transportation"]

[Text] Following institution of production responsibility systems in rural villages, the number of animal-drawn carts in most counties of the province increased by more than 1,000, making them a major force in rural transportation. Animal-drawn carts are characterized by small expense, sturdiness, and easy care. The peasants' burden is small in using them, and one might say that much can be done with small expenditure of money. This fits in with agricultural production relationships and the situation in development of productivity in China at the present stage. Now that rural villages have everywhere established agricultural production responsibility systems, during the period of development toward the mechanization of agriculture, it will be necessary to go through a period in which machines and animals are used at the same time. Therefore, overly early "substitution of machines for animals," and particularly envisioning overly early substitution of tractors or trucks taking the place of animal-drawn carts in rural transportation is not realistic. It is divorced both from the present state of agricultural production and from the present state of energy production.

Reportedly rural communes and brigades in Liaoning Province have purchased more than 4,000 trucks that have been retired from service in cities, and in 1981 individual peasant purchases of medium and small size tractors ran to more than 3,000. Support should be given those used in field operations; however, some of them have also been used in non-agricultural transportation. This not only contends with urban transportation vehicles, but also wastes large amounts of gasoline and diesel fuel.

Tractors should be used principally in field operations and for agricultural transportation where animal-drawn carts cannot be substituted, and trucks should be used primarily in commune and brigade enterprises for the hauling of raw materials and products. Collective or individually owned tractors and trucks should not be used for transportation run as a business in any form. Rural villages should make full use of the role of animal-drawn carts for all forms of transportation.

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LESSONS FOR EROSION CONTROL DRAWN FROM 1981 FLOOD DISASTER

Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 3, Jun 82 pp 21-25

[Article by Zhang Liming [1728 0448 6900], Shaanxi Provincial Soil Conservation Bureau: "Strictly Prohibit Reckless Denudation and Indiscriminate Clearing of Land to Prevent and Control Mountain Region Soil Erosion--Survey of 1981 Exceptionally Great Flood Disaster in Southern Shaanxi"]

[Text] During July and August 1981, continuously heavy and torrential rains in southern Shaanxi brought torrents of water rushing down mountains, which caused intense erosion, rolling and roaring, collapses, landslides, and mud-rock flows everywhere, and created a disaster situation in mountain regions and flatland areas such as has been rarely seen.

In recent years, southern Shaanxi has had numerous water disasters, and the heavy damage wrought by last year's floods may be accounted for by several reasons. There are natural reasons such as a fall rainy seasons that was long, brought a large volume of rain, and was powerful. This was a direct reason leading to the disaster. Another reason is the lack of centralized planning of river control, and the not very high quality of engineering. However, looked at in terms of macrophenomena, the blindness of people's production activities with the clearing of land everywhere to expand cultivation, and the reckless cutting of trees and denudation of the land that has destroyed the ecological balance and caused intense soil erosion (contemporary erosion) are the main reasons that have turned rainfall into disasters. To a certain degree, the frequency and increasing seriousness of flood disasters in southern Shaanxi are mostly the serious consequences of erosion.

1. Natural Reasons For Soil Erosion in Southern Shaanxi

Three basic natural factors are necessary in order to have soil erosion: One is an external force to produce the washing away--water; second is a corrosive material--soil or mother material; and third is a sloped terrain that is conducive to soil erosion. In the Qinba mountain region of southern Shaanxi, these three elements are present. The inland areas of that region are controlled by the circulation of the monsoon winds. It is the region of the "Western China autumn rains." In most years much rain falls in autumn, and during July and August 1981, in particular, when cold air from the north flowed southward and collided in this area with warm humid air from the south, a highly powerful cold front rain was produced, and the quantity of rainfall greatly increased. A survey has shown that during August 1981, rainfall in that region was between one and four times the volume for the same period over the years, and the period of duration 40 to 60 days. In seven counties, maximum daily rainfall during August was more than 100 millimeters, and in the Yangping mountain pass area of Ningqiang County, on 16 August 172 millimeters of rain fell. In five counties of Hanzhong Prefecture, rainfall during August amounted to more than 500 millimeters. Among them were Lueyang and Ningqiang counties, each of which had more than 700 millimeters. During August Lueyang had 10 rainfalls of more than 30 millimeters each, seven torrential rainfalls of more than 50 millimeters each, and two heavy torrential rainfalls of more than 100 millimeters each. Between 14 and 25 August, the county had 12 days of rain totaling 627.7 millimeters, more than four times the volume of rainfall for the entire month of August in past years. In Qinba County, rainfall during August amounted to 509.6 millimeters or 4.5 times the average 130.3 millimeters of rainfall for the same period over the years. The highly powerful rainfall over a wide area was the meteorological phenomenon responsible for the great flood disaster of 1981.

Geologically and topographically, this region is part of the Tailing and Bashan mountain region. Within the region, except for the Hanzhong Basin, there are range after range of towering mountains. The Tailing mountains average about 2,500 meters above sea level. The mountains are high, the slopes steep, and the terrain precipitous. Through the Daba mountain region is somewhat lower than the Tailing mountain region, because it is fractured and uplifted, limestone distributed over a wide area, and cliffs and precipices extending one after another, the terrain is very difficult of access. In addition, the medium and low mountain areas between the two ranges are formed largely of metamorphic rock, schist, limestone, complex, and granite, which have been strongly corroded and have a fairly thick weathered layer. The hill and low mountain region is composed largely of adamic earth and gravel, which is loose and prone to wash away, flake away, or slide. In short, the terrain here is characterized by "many mountains and little flat land, steep slopes, and a thin layer of soil." It possesses the terrain elements for powerful soil erosion.

2. Human Factors Intensifying Soil Erosion.

The 1981 exceptionally great flood disaster in southern Shaanxi, in mountain areas and flatlands alike, was the evil consequences of serious soil erosion. Soil erosion may be divided into natural erosion and accelerated erosion. Natural erosion is usually slow and is a geological process, but after man joins in the destruction of the natural world, development of the natural erosion process may be greatly hastened, and this is contemporary erosion. In southern Shaanxi, man made elements accelerating contemporary erosion are of the following major several kinds:

(1) Clearing of Steep Slopes For Farming and Indiscriminate Clearing of Land and Arbitrary Planting, Expanding the Eroded Area

In the Qinba mountain region the destruction of forests and clearing of land has been going on for a long time. It began during the waning years of the Western Zhou dynasty when the orindary people of the state of Zheng (modern day Hua County) moved southward to establish homes in Hanzhong County where they began a primitive slash and burn form of agriculture. During the period of the Qin and Han dynasties and the Three Kingdoms era, this area was the land in which military colonists of Liu Bang of the Han and the feudal prince Zhuge [Liang] encamped to begin development of the flatlands. But at that time there were few people here, and damage to the mountain forests was not great. Soil erosion was slight. Subsequently during the reign of Jiajing [1522-1567] of the Ming dynasty, during a period of social upheaval, large numbers of people from the southeast flowed into southern Shaanxi (present day Hanzhong, Xixiang, and Mian counties). They settled in the mountains, built shacks for shelter, felled trees for firewood and for wood to build houses, and cleared the land for agriculture. During the period of the Taiping Heavenly Kingdom, in particular, this area became a battleground for the Nian Army and the soldiers of the Qing dynasty. "During times of small upheaval, flee the cities; and during times of great upheavals flee the countryside," runs an old saying. Large numbers of ordinary people took to the mountains, and with this the low mountains and hills and even the mountain fastness were destroyed. This situation endured right up until the years of the Republic. Because of the gradual decrease in the forest area and the gradual enlargement of barren slopes, the eroded area became increasingly large. On the eve of Liberation, the eroded area of Hanzhong Prefecture amounted to 13,000 square kilometers, which was 47.9 percent of the total land area.

Since the founding of New China, as a result of government's failure to institute planned parenthood policies at once, population increased very rapidly. In 1949, there were only somewhat more than 1.85 million people in all of Hanzhong Prefecture. By 1963, the number had increased to 2,433,000, and by 1980 it had increased to 3,349,000 for a net increase of about 1.5 million people in a 30-year period. As a result of the pressures occasioned by high speed population growth, plus mistakes made in operating programs, not only did no halt occur in the clearing of land and the expansion of agriculture, but, on the contrary, it became worse and worse. According to incomplete statistics from the prefecture, during a period of 30 years the area cleared of forests and opened to agriculture was more than 2 million mu, and in the Qinling mountain region of Baoji Prefecture, about 1 million mu of forests were also destroyed. According to records from Zhenba County, in a 30-year period, an accumulated area of 644,000 mu was cleared for agriculture throughout the county. This included the clearing of 190,000 mu between 1950 and 1958, an average 21,000 mu per year; the clearing of 364,000 mu between 1959 and 1962, an average 91,500 mu per year; no statistics for the period 1966-1970; and the clearing of 88,000 mu between 1971 and 1980 for an annual average of 8,800 mu. A survey done at Qingmuchuan Commune in Ningqiang County during the spring of 1981 showed that

573 of the 859 households in the commune had cleared land to expand agriculture over an area of 493 mu. Furthermore, 30 mountain forest fire disasters, which resulted from burning to clear the land, destroyed 241 mu of forests.

Such large-scale and high speed clearing of the land to expand agriculture has made ever larger the cultivated slopeland area of southern Shaanxi, and as soon as a torrential rain falls, erosion over a wide area results. Measurements made at the Hanzhong Water Conservation Station show that following each torrential rain, upwards of 1 centimeter of top soil is washed away from cultivated slopelands. The reported cultivated slopeland area in Hanzhong Prefecture is 3,146,700 mu (the actual area is somewhat larger), so on this basis, with each torrential rain, 28.32 million tons of top soil are washed away. The large amount of erosion has increased the volume of silt in rivers. Analysis of 24 years of data from the Wuhou Town Hydrology Station on the Han Jiang shows the modulus of silt carried annually above the measuring station to have been 804 tons per square kilometer, a maximum of 2,100 tons per square kilometer, an average volume of silt transported of 2.49 million tons, and a maximum of 8.66 million tons. In the Jialing Jiang basin, runoff is more severe. Analysis of data from the Lueyang Hydrology Station for a 34-year period showed the modulus of silt transported each year above the measuring station to have been 1,680 tons per square kilometer, a maximum of 4,030 tons per square kilometer, an annual average of 3,230 tons of silt transported, and a maximum of 7,740 tons. The foregoing statistical data show the degree of soil erosion here to be no less than that of the loesslands of the northern Wei. Because of the increase in amount of runoff, a corresponding increase has occurred in the volume of silt carried by streams, so in many sections of streams silting is becoming more and more serious. In southern Shaanxi, in particular, gravitational abrasion is dynamic. With each heavy rainfall, the bed load is very great, bringing about a situation of "carrying sand and pushing rocks along, with resulting accumulations in the streams." Sectional measurements taken at Wuhou Town on the Han Jiang show that over a 15-year period the river bed has risen by about an average 0.41 meters per year. Sectional testing at Lueyang on the Jialing Jiang shows an average annual rise of 0.6 meters.

(2) Excessive Felling and Reckless Denudation With Destruction of Forest Plant Cover and a Lowering of Ability to Hold Water Resources

Southern Shaanxi is the major forest area of Shaanxi Province. Though definite achievements have been made in the building of forestry here since founding of the People's Republic, as a result of irrational operating programs and excessive felling, plus society's consumption of timber greatly exceeding the amount of forest growth, the forest area has gradually declined; the quality of forest stands has steadily fallen, and timber reserves have become less and less. A survey done in Feng County shows that during the 18-year period from 1959-1976, the county's mature forest area declined by 480,000 mu or 71 percent of the total mature forest area. In the Taibai forest area, the felling quota for 1979 was 5,500 cubic meters, but 10,453 cubic meters was actually procured. In 1980 the felling quota for the Taibai Forestry Bureau in Shaanxi Province was 53,000 cubic meters, but 56,188 cubic meters were actually felled, 3,188 cubic meters more than quota.

Facts everywhere show that overprocurement has caused reckless felling, and that reckless cutting has exceeded the amount of growth. The Hanzhong Forestry Department has calculated a timber growth averaging 1.33 million cubic meters annually for the prefecture as a whole, while average annual consumption is 1.54 million cubic meters for the prefecture as a whole, or 15.8 percent more than growth. In Baoji Prefecture, the situation is more serious. Annual growth is 696,000 cubic meters, while annual consumption is 1,096,000 cubic meters or 1.57 times the amount of growth. Under the influence of the ultraleftist ideology, in particular, destruction of forest resources in both prefectures as a result of iron smelting, the 3-year hardship period, and the Great Cultural Revolution caused a loss of more than 3 million mu of the forested area of these two prefectures. Forestry inventory data show the forest cover rate for Hanzong Prefecture as a whole to be only 35 percent, and in the counties (or municipalities) of Lueyang, Ningqiang, Zhenba, Xixiang, and Hanzhong, where destruction has been serious, only 28, 26.1, 22.2, 21.8, and 11.3 percent respectively remain. The low mountain and hill regions are currently seriously eroded areas of barren mountains and exposed rock.

As a result of the reduction in forest area, not only do raindrops strike the soil surface directly, scouring away the soil, but the natural repository of soil moisture has been destroyed resulting in a decline in the water holding function of the vast mountain regions. Measurements show that when the space between root systems in forest soil reach 1 meter, the water storage capacity of the forest is from 500 to 2,000 cubic meters per hectare (15 mu). When there are no forests, this water storage does not exist, so naturally the water runs down slopes, greatly increasing surface runoff. Where surface runoff is overly concentrated, serious scouring of the soil takes place, and in a situation of soil saturation, where the terrain conditions are right, mud slides, landslides, and mud-rock slides occur. Incomplete statistics from Lueyang, Ningqiang, Mian, Liuba, and Nanzheng counties show that during the 1981 rainy season, landslides and mud-rock slides occurred at more than 10,000 places, most of them near highways, railroads, and rural towns where destruction of forests and clearing of land was serious, and on exposed cultivated slopes. Representative sampling done in Feng County following the disaster showed a less than 3 percent slide area in forests, only 7.9 percent in sparsely forested areas, 11.4 percent in scrub forest areas, 17 percent on uncultivated grassy slopes, and 40 percent on cultivated slopes. In Ningqiang County, where the area in which forests have been destroyed to clear land is fairly large, the disaster situation was also serious, yet in the Bashan and Tiesuo areas of the county, where the forest cover rate is better than 50 percent, there were 361 and 393 landslides respectively. Meanwhile, in the Yangping area and the Daijiaba area, where destruction has been serious and the forest cover rate is less than 30 percent, landslides were numerous and covered a wide area, occurring at 1,273 and 2,966 places respectively, and causing serious damage.

(3) Neglect of Water and Soil Conservation in Capital Construction and Lack of Centralized Planning in River Control Resulting in the Breaching of Dikes and the Bursting of Dams Adding to the Seriousness of the Flood Disaster

For the past more than 10 years, the scale of construction on three fronts in southern Shaanxi's mountain region has been fairly great, but in the building of industrial plants, the construction of highways, the opening of mines, as well as in the construction of winding mountain irrigation ditches, as a result of neglect of water and soil conservation, large quantities of sand and rock, excess dirt, and mine tailings have gone into gullies, ravines and riverbeds where they block watercourses and add to the mud and sand content. The Daan Asbestos Plant in Ningqiang, for example, annually dumps several hundred thousand tons of tailings into a waterway. This plus soil erosion in the upper reaches resulted in a 1.5 to 2 meter rise in the riverbed during a flood that occurred during the flood season last year. Another example is the section of the Jialing River at Lueyang City where three rivers converge. Because of large quantities of excess soil and waste residues dumped into the river by the Han Steelworks, a cement factory, and from the repair of roads, not only had the river bed been raised, but the river channel had been narrowed. Flood waters could not drain away smoothly, resulting in a congestion of water, a rise in water level, and the bursting of the dike to cause disaster. On the slope of the cutting through which the Baoji-Chengdu railroad line passes, and along the right of way of newly built highways in mountain areas, in particular, because of man-made changes in the stability of the natural mountain mass plus a large population, numerous farmlands, and mud-rock slides occurred everywhere. Survey shows that in the Fengzhou right of way along the Baoji-Chengdu line alone, 92 fairly large landslides occurred. In the area between Honghuapu and Shuangshipu, mud and rock slides occurred in 90 percent of the tributaries on both sides of the Jialing Jiang. They cut the roadbed in 44 places, swept away 10 bridges, and buried three stations, causing interruption of service on that line for 2 months.

In harnessing rivers, as a result of lack of centralized planning or even espousal by some places of the slogans, "Large rivers form a continuous line but small rivers have to move aside," and "Fight with the dragon king for land to get grain out of river shallows," parts of rivers have been blindly filled in to make farmland, thereby narrowing the river bed. For example, Qianjin Production Brigade in Huangsha Commune, Mian County advanced its dike 40 meters into the river, and Jiguang Production Brigade in Laocheng Commune built its river dike in the middle of the river, a difference of 200 meters from the planned line at its farthest point. As a result, when the flood waters arrived, they could not pass freely; the water level rose, and the dikes burst, and thus the damage done by the floodwaters was made greater as a result of man's efforts.

3. Strengthening of Comprehensive Control of Water and Soil Conservation Is a Fundamental Way To Reduce Drought and Waterlogging Disaster Damage.

It may be seen from the foregoing analysis that there are three major factors that cause and intensify floodwater damage in southern Shaanxi. One is natural factors, i.e., the protracted rainfall and heavy torrential rains caused by atmospheric circulation. Second is terrain factors, i.e., the high mountains and steep slopes that make up the topography of the Qinba region, the readily weathered rock and the adamic earth, the gravel, and such geological conditions. Third is reckless felling of trees and arbitrary clearing of land as well as irrational human activities such as denudation of forests in a blind clearing of land for agriculture, fighting rivers for land in contravention of natural laws, and filling in of rivers to make farmland. The overall function of the foregoing three major factors are mutual cause and effect, which brought about last year's unprecedently severe erosion in southern Shaanxi.

We saw clearly in the course of our survey that human activities are an extremely dynamic factor, particularly the clearing of steep slopes, the reckless felling of trees, the cutting into mountains to build industrial plants and mines, careless disposal of gravel and stones, and several instances of "going at things in a big way." These were human activities that destroyed the mountain ecological system, loosened solid materials, and destroyed the balance of the terrain. They hastened erosion and were the main factors in the tremendous damage that was caused. Therefore, in future, major efforts must be made to conserve soil and water and to launch comprehensive control as the fundamental way in which to prevent or reduce drought and waterlogging disasters. The specific actions to be taken are as follows:

1. Planned Closing Off of Mountains to Grow Forests; Major Efforts in Aerial Sowing For Afforestation; and Earliest Possible Restoration of Forest Cover. Southern Shaanxi's climate is mild; rainfall copious; and natural restorative conditions good. These conditions should be used to the full to proceed on the basis of centralized planning to designate sites that should be closed off for the growing of forests and aerial sowing, a specific number of years set, systems formulated, specialized organizations established, and management and protection enhanced. These methods produce forests quickly, require little labor, conserve expenditures for huge benefits, and should be vigorously promoted. At the same time it is necessary to resolutely adopt effective measures. When necessary, reliance should be placed on the law and legal methods used to halt the destruction of forests and the clearing of land, the destruction of grass to grow grain, the burning off of mountains and slopes to clear them, and such bad habits. Forest area should have as their main concern the care of forests to prevent the felling of trees over wide areas and to protect forest resources.

2. Emphasis on Control of Low Mountain and Hill Regions in the Building of Basic Farmlands to Create Conditions for a Return of Land to Forests or Pastures. As population grows, human activities in low mountain and hill regions become more frequent, destruction of forests to clear land becomes serious, the area of cultivated slopes increases. and erosion becomes intense. Major control of this region, with protection of high mountain forests above and protecting the granary on the plain below, would be remarkably effective. As means of control, efforts should be directed toward comprehensive control of entire basins. Southern Shaanxi is a mountain area of soil and stone traversed by mountains and rivers in which there are numerous streams, and in which each basin constitutes an erosion unit. For each unit there must be centralized planning from top to bottom, with selection of superior variety trees for planting in places suitable for forests, preparation of the land for

afforestation, and development of native forestry byproducts. In hill areas where slopes are gentle, terraced fields rimmed with stone or earth may be built in the construction of basic farmlands. Narrow gullies and ravines should be dammed up to intercept mud and sand and to stabilize the ravines and gulches. On tracts in wide river valleys, fields should be uplifted and small water conservancy developed. Along the porifera of the hill area, and in the triangular area formed by Mian, Lueyang, and Ningqiang counties at the source of the Han Jiang, the low mountain area is fairly large and cultivated slopes numerous. Lamelliferous scouring occurs everywhere, and terraced fields should be energetically constructed. Slopes not suited to cultivation should be gradually withdrawn from cultivation for reversion to forests or grasslands. For the present, forests and grain may be grown in alternating strips so as to prevent or reduce erosion.

3. River Control Requires Centralized Planning, Comprehensive Control, and Prevention of Flooding. The flood disaster in southern Shaanxi in 1981 resulted primarily from the rains having lasted for a long time, their intensity, and their broad area of coverage. The flood prevention standards of most river defense projects could not withstand such rarely encountered floodwaters. However, in work terms, the floods were part and parcel of the present lack of centralized planning of river control and everyone going his own individual way. The streams in the Qinba area are a part of the mountain area streams. When the volume of floodwater is large and the flow violent, low-lying areas and river flood plains become extremely prone to flooding. Therefore, in controlling rivers, it is necessary to do centralized planning for upper and lower reaches, and for left and right banks in a harnessing of both the mountains and the rivers. In addition, it is necessary to adopt biological measures in combination with engineering measures for comprehensive control. Needed water storage projects to effect control should also be built to intercept and impound floodwater. When building dikes and dams, within dikes afforestation should be done to protect the dikes. Outside the dikes, billow prevention forests should be created, forests, grass, dikes, and low banks between fields used to form a coherent whole in the hope of gaining maximum preventive benefits. Overall planning that takes all factors into consideration should be done; there should be unified control of water, and strengthening of management in order to assure safety.

4. Improved Understanding: Establishment and Perfection of Basinwide Water and Soil Conservation Organizations; and Genuine Strengthening of Leadership For the Building of Southern Shaanxi's Mountain Regions. Both the Han Jiang and the Jialing Jiang are major tributaries of the Cheng Jiang. Within the basins of these two rivers are high mountains and steep slopes on which the soil layer is very thin. Once it is washed away, there will be no end to grief. In addition, this area contains numerous streams with a large volume of flow, so protection and development of water and soil resources here permits not only a reduction or avoidance of floodwater damage here, but also relates to the issue of development and use of the Chang Jiang. However, formerly people always supposed that since the mountains were green and the waters clear here, there was no erosion, so they did not give serious attention to soil and water conservation work in southern Shaanxi. This was

a mistake in our work, and we must learn this lesson. In order to develop and build southern Shaanxi's mountain regions, to make full rational use of the water, soil, grass, and timber resources here, to protect the ecological system, and to reduce flood and drought disasters, it is recommended that basinwide soil and water conservation organizations be established to coordinate development of comprehensive control work by relevant agricultural, forestry, water conservancy, and animal husbandry sectors so as to build the mountain regions of southern Shaanxi into economically flourishing new mountain areas.

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METHODS TO CONTROL FLOODING, CONSERVE WATER URGED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 3, 1982
pp 14-15

[Article: "Conscientiously Generalize Experiences and Lessons in Excelling in Future Water Conservancy Work"

> [Text] Editor's note: In August 1981, a historic high-water-mark flood erupted in Hanzhong Prefecture and Baoji Municipality of Shaanxi Province, inflicting heavy damage. The hydroelectric bureau of the province organized flood investigation teams for on-site inspection and investigation in key damage areas to generalize experiences and to analyze the causes of these disastrous floods. The findings show the main feature of the disaster was excessive rains, causing three flood diasters: sliding slopes, mud flow, and rock slides. The basic causes of the disaster were high-pressure ridges of warm moist air over the Pacific Ocean, frequent typhoons, intensive sunspot activity, and abnormal weather. This caused long persistent heavy rains to spread over wide areas of Hanzhong and Baoji, causing rivers to overflow and inflicting disaster. There were many factors causing the floods: the direct cause was the heavy, prolonged rain. Also contributing to the flooding was the geography and history plus problems in governmental functions--less than ideal urban planning, unsound layout in industry, agriculture, commerce and communications; mismanagement in dike construction, and damages to forest and plant cover. The investigative report analyzed the situation. The following is an abbreviated report (Part III) quoted here for readers' reference.

Viewpoints and Opinions to Several Existing Problems:

I. Relationship Between Forest and Flood

Forests provide many benefits, such as moderating the climate, preservation of watersheds, soil and water retention, prevention of wind damage, keeping the sand compact, environmental beautification, and removal of pollutants. There are positive effects from regulating river and steam flow, reducing silt

silt deposit onto river channels and water reservoirs, and extending the service life of construction projects. This is why forests are called "dispatch rooms of mother nature" and "green water reservoirs." However, forests play a conditional and limited role in water storage and soil retention; the forests' role is diminishing with increased rainfall intensity. In addition, the role is closely related to terrain, geomorphology, and geological structure. In case of heavy rainstorms during the flood season, forests cannot effectively store flood water. It has been proved that forests fail to control floods.

At 4 o'clock in the afternoon on 22 August, the peak flood flow in the Han River passing Hanzhong Municipality was 8,310 cubic meters per second; the main source of the flood peak was the Bao River. At the Madao Hydrometric Station on the Bao River, the peak flood flow on 21 August was 5,810 cubic meters per second. At 13:43 hours on 22 August, the drainage flow at the gate outlet of the Shimen Water Reservoir was 4,830 cubic meters per second, which is 58 percent of 8,310 cubic meters per second at Hanzhong Municipality Hydrometric Station on the Han River. The plant-cover conditions of this valley are as follows: 77.8 percent of Taibai County in the upper reaches of the Bao River Valley (3,861 square kilometers), and 58.8 percent for Liuba County; forest plant cover for the entire valley is about 60 percent. Forest plant cover can be said to be relatively good. The Madao Hydrometric Station is situated on the down-river side of the middle streams of the Bao River, 28 kilometers from the Shimen Water Reservoir; the hydrometric station controls 3,415 square kilometers of the valley. There were low amounts of precipitation before 9 August; at the time, the soil moisture (in valley soil) was 17.2 mm. On 9 August, there was 54.7 mm of rainfall; the peak flood flow was 292 cubic meters per second, corresponding to a flow of 27.3 million cubic meters; the data were converted to 8.0 mm of net rain and a drainage coefficient of 0.15. There was no rain from 10 to 12 August. On 13 August, here was 2.8 mm of rainfall, and the soil moisture content in valley soil was 46 mm. On 14 August, there was 25.5 mm of precipitation, and the soil moisture content in valley soil was 62.4 mm. From 14 to 20 August, total precipitation was 348.2 mm, with four flood peaks (more than 1,000 to 3,000 cubic meters per second), corresponding to a flow of 298.6 million cubic meters; the data were converted to a net rainfall of 87.4 mm and the drainage coefficient was increased to 0.94. These data indicate that 85 percent of the precipitation (before 9 August) was accounted for by forest retention, downward seepage, filling of depressions, and evaporation because the climate in this period was relatively dry. However, in the later period after long persistent rainstorms, valley soil reached a saturation point and the total of the four aforementioned categories accounted for only 6 percent of precipitation. These data indicate that the forests' role of flood retention and storage was limited in the situation of persistent rainstorms in August 1981. We must point out that forests have a definite effect on the retention of ordinary rainstorm water, as well as on lessening disastrous floods; under certain environmental conditions, forests can exercise a remarkable role. We must stress, however, that in the area of Qinling and Bashan Mountains, the soil depths were thin; plant cover had been damaged; and soil and water losses were intensified. These are danger signs. We believe that it is necessary to protect closely the existing forest resources, to forbid opening up virgin land by wiping out forests, to add to forested area, to increase the percentage of plant cover, and to prevent water and soil losses en bloc.

II. Opinions on Constructing Dikes Along Medium-sized and Small River Channels

In recent years, regulations on medium-sized and small river channels were promulgated in provinces of China; many dike and river protection projects were completed. However, many problems still remain in our planning, design, construction and management, as this flood indicated. We should conscientiously generalize these experiences and draw lessons from them.

The four following problems need to be noted during planning: (1) Economic benefits should be stressed by conducting studies on necessity and feasibility. (2) Appropriate standards and guidelines should be complied with by adopting an adequate flood-prevention standard and by calculating the flood peak flows used to prevent the disaster. (3) During calculations of water flow cross-sections, we must take into account related conditions of water and sand, stable gradient, and river feature adequately to select dike distance and height, not too high and not too narrow. (4) Deal with all problems in river regulation and the relationship between left and right banks, as well as between upper and lower streams. Spur dike projects should not be so built as to form water barriers, with water overflowing into adjacent areas.

There are six problems in design and construction as follows: (1) If two flood prevention standards are used in a river sector (as in the case of different standards in urban area protection and in farmland protection), lattice dikes should be built at the sites of upper streams to protect the area from water flowing in by rear detours. (2) Erosion depths of river channels should be calculated in designing adequate foundations. (3) In river sectors with ready access to soil when the dike body is stable but difficulties exist in digging deep foundations, lead-wire cages or soft material protection (such as bundled bamboo baskets) can be used on bank slopes facing the water; stone masonry (not mortar rubble masonry) can be used to protect bank slopes facing the onrushing water. (4) In the case of a dike project with sector-by-sector design and construction, two ends of the project in the upper and lower streams should be joined to solid reliable locations such as high rocky pits or strong buildings to stop water flooding from the rear. (5) Dike fills should meet strict quality standards and bank slope projects should be constructed by strictly adhering to established design. (6) Reinforce the protection design at confluences of tributaries entering the main channel, and the water onrushing sector at bends of rivers.

In management, sound organizations should be established to improve the situation of river channel mismanagement. We should ban activities which damage dikes or empty waste materials into channels. Routine maintenance and repair work should be performed conscientiously.

III. Build Regulating Reservoir Projects as Per Plans

Up to the end of 1980, in the Hanzhong Prefecture and Baoji Municipality 2 large reservoirs, 10 medium-sized reservoirs, and 486 small reservoirs had been built with a total water capacity of 1,133,000,000 cubic meters. In this near-record-setting rainstorm and flooding, only two small (category II) reservoirs in Baoji Municipality collapsed; most water conservancy facilities stood the test of flood, especially in the Hanzhong Prefecture, not a single dam failed. This was a success story in reservoir construction. In the flood period, these reservoirs of all sizes had some success in flood retention and protection. The combined effect of Fengjiashan and Wangjiayai reservoirs on the Qian River, as well as the incomplete Shitou River reservoir reduced the flood peak by 1,980 cubic meters per second at Weijiabao Station on the Wei River. In the case of Shimen Reservoir, it stored 30 million cubic meters of flood water and lowered the flood peak by 1,550 cubic meters per second to protect Hanzhong Municipality in relieving the flood diaster. Another case, that of the Duanjiaxia Reservoir in the upper reaches of the Qian River, the peak flood of the river channel was lowered from 436 to 36 cubic meters per second in protecting the county seat of Longxian. These examples are sufficient to illustrate the role of water reservoirs in flood prevention and flood peak reduction during the struggle against this kind of disaster. However, the reservoir capacity is too small compared to the onrushing river flow, so the flood eventually gained the upper hand. Therefore, we suggest planning regulation projects, when economically feasible, of the Zhouzhihe River reservoir, Jiebaiquan and Qingqiaopu reservoirs on the Bao River, and the Jiaoyai Reservoir at Chenggu to protect Xianyang County, Xi'an Municipality, Hanzhong Municipality, and Chenggu County in order to exploit the comprehensive benefits of flood prevention, irrigation, power generation, and water supply.

IV. Urban Planning and Plant Deployment Should Be Coordinated With Flood Prevention Projects

During plant and warehouse site selection and deployment of the commercial distribution network, some organizations pay attention only to immediate benefits but neglect the overall benefits gained and damage eliminated by the river channel requirements. As a result, some avoidable damage has been inflicted. In the future, urban planning and plant deployment should give due attention to the requirements of flood prevention and should be closely coordinated with flood prevention programs in urban areas. In addition, procedures of capital construction should be adhered to; geological prospecting should be done in advance and proper measures for prevention should be adopted in order to reduce damages caused by descending slopes, landslides, mud flows, and rock slides.

From the above-mentioned, we stress in particular adhering to routes with comprehensive regulation. On one hand, we should strictly protect existing forest resources by forbidding the opening of virgin land by wiping out forests; we should also vigorously engage in tree planting and linking up forests in order to increase the ratio of forest cover and water and soil retention. On the other hand, we should build necessary dike projects along the banks of the Pingchuan sector of the Han River and in the middle and upper streams of Wei River to coordinate planning and meet local conditions. Maintenance and management of existing dikes should be strengthened to clear out barriers to flood passage in river channels. In the planning of urban development, we should give due heed to flood prevention requirements, and the effects of descending slopes, landslides, mud flows, and rock slides for a rational layout. Some essential regulating water reservoirs should be built along principal tributaries. Our activity in the future should be directed to these above-mentioned areas.

10424
CSO: 4007/575

BENEFITS OF MARGINAL ANALYSIS OF COSTS, OUTPUT EXPLAINED

Beijing ZHONGGUO NONGKEN [STATE FARMS & LAND RECLAMATION IN CHINA] in Chinese No 8, 82 pp 12-13

[Article: "Application of Marginal Analysis to Improvement of Economic Effectiveness"]

[Text] A major indicator of how good a job is being done in agricultural production on state-owned farms is fairly high economic effectiveness. We conducted a survey and analysis of wheat production costs and economic effectiveness for a number of eyars at the Wusi Farm in Shandong Province, which showed that despite steadily increasing wheat output and profits, nevertheless the farm had some problems meriting attention. Let us first detail the survey and analysis circumstances below.

1. Changed Circumstances in Wheat Production Costs and Economic Effectiveness

The Wusi Farm has 4,200 mu of cultivated land, about 3,200 mu or more than 70 percent of which was sown to wheat every year. The farm made profits totaling 447,100 yuan from the growing of wheat from its first profits in 1975 until 1981, its annual profits averaging 19.95 yuan per mu, and its cost profit rate being 41.2 percent for fairly high economic effectiveness. Beginning with cost analysis, we analyzed wheat's economic effectiveness, the changes in development being shown in Table 1.

Table 1. Wheat Output and Cost Situation Over the Years

Year Item	1974	1975	1976	1977	1978	1979	1980	1981
Yields per mu (jin)	336	407	387	347	330	558	415	402
Cost per mu (yuan)	27.00	29.15	33.00	32.15	34.15	50.00	52.30	58.22
Cost per jin (yuan)	0.080	0.072	0.085	0.093	0.104	0.054	0.126	0.145

In the 8 year period between 1974 and 1981, wheat yields went from 336 jin per mu to 402 jin per mu for a 19.6 percent increase, while costs rose from 27 yuan per mu to 58.22 percent for a 1.16 fold increase. Though wheat output **rose greatly**, owing to the higher cost per mu, the per unit cost also rose greatly. Wheat costs rose from 0.08 yuan to 0.145 yuan per jin for an 81.3 percent increase.

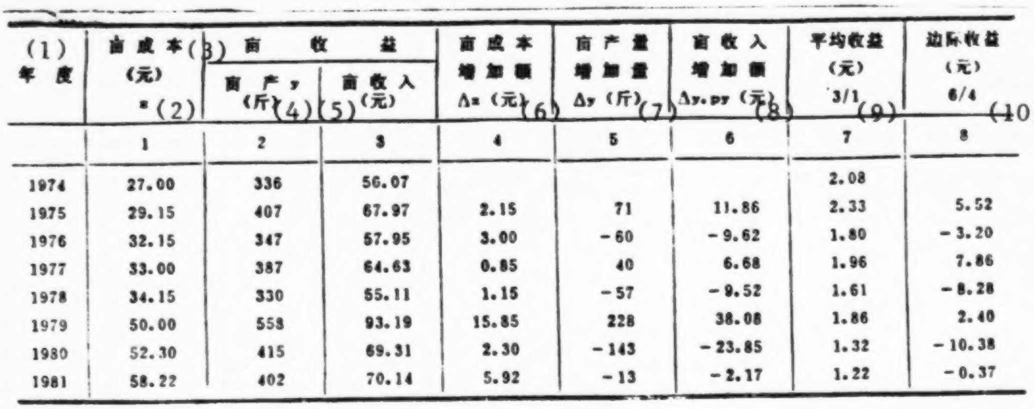
A look at the foregoing situation shows a steady increase in the cost per mu of wheat. This reflected the farm's movement from extensive to intensive operations. This movement did not develop evenly. In the 5 year period between 1974 and 1978, wheat costs per mu rose fairly slightly. This period reflected adherence to an attitude of circumspection toward costs, and attention to pursuit of economic results from costs in consequence of which per unit costs were fairly stable and economic effectiveness was fairly high. Between 1978 and 1979 a great leap in costs appeared. Costs rose suddenly from 34.15 yuan to 50 yuan per mu, a 46.4 percent increase, while wheat yields increased from 330 to 558 jin per mu, a 69.1 percent increase. Because the extent of increase in output exceeded the extent of increase in costs, costs of product fell from 0.14 yuan to 0.054 yuan per unit of area, a decline by half for the lowest product cost and optimum economic results in many years. Plans called for continued lowering of costs and higher output for greater economic effectiveness between 1979 and 1981. However, this hope was greater than the farm's realities permitted, and the anticipated goals were not obtained, with the result that economic results declined greatly. In 1981 costs of wheat production rose to 58.22 yuan per mu, a rise of 16.4 percent while yields fell to 402 jin per mu, a decline of 28 percent, occasioning an increase in costs of 0.145 yuan per jin or a 68.7 percent rise.

2. Analysis of Marginal Effectiveness of Costs

In an overall sense the economic efficiency of Wusi Farm's wheat production was rather good. However, marginal analysis of economic benefits derived from increased costs year by year shows numerous conspicuous problems. Supposing: costs per mu to be x and yields per mu to be y, the average benefits being y/x; amount of increase in costs per mu being Δx, and amount of increase in yields per mu being Δy, the marginal yields from production costs thus being $\Delta y/ \Delta x$; if the per unit price per jin of wheat is py (the prevailing price being 0.167), the marginal benefit from production costs would be $\Delta y.py/ \Delta x$. Our analysis of marginal benefits as derived from survey data are shown in Table 2.

It may be seen from analysis of Table 2 that marginal effectiveness was greatest in 1975 and 1977. This was because during these two years $\Delta x < \Delta y.py$. After 1977, continued major increases in production costs brought a decline in marginal effectiveness, and 3 of the 4 years showed a negative value, i.e. $\Delta x < \Delta y.py$. Despite the all-time high yields of 558 jin per mu in 1979, marginal effectiveness was less than one-third that of 1977. The foregoing analysis shows that application of marginal analytical methods to determine optimum economic results is extremely important.

Table 2



(1) 年 度	亩成本 (元) x (2)	(3) 亩 收 益		亩成本 增加额 Δx (元) (6)	亩产量 增加量 Δy (斤) (7)	亩收入 增加额 Δy.py (元) (8)	平均收益 (元) 3/1 (9)	边际收益 (元) 6/4 (10)
		亩 产 y (斤) (4)	(5) 亩收入 (元)					
	1	2	3	4	5	6	7	8
1974	27.00	336	56.07				2.08	
1975	29.15	407	67.97	2.15	71	11.86	2.33	5.52
1976	32.15	347	57.95	3.00	-60	-9.62	1.80	-3.20
1977	33.00	387	64.63	0.85	40	6.68	1.96	7.86
1978	34.15	330	55.11	1.15	-57	-9.52	1.61	-8.28
1979	50.00	558	93.19	15.85	228	38.08	1.86	2.40
1980	52.30	415	69.31	2.30	-143	-23.85	1.32	-10.38
1981	58.22	402	70.14	5.92	-13	-2.17	1.22	-0.37

Key:

(1) Year
(2) Cost per mu (yuan) x
(3) Benefits per mu
(4) Yield per mu (jin) y
(5) Income per mu (yuan)
(6) Increased cost per mu (yuan) Δx
(7) Increased yield per mu (jin) Δy
(8) Increased income per mu (yuan) Δy,py
(9) Average net benefit (yuan) 3/1
(10) Marginal benefit (yuan) 6/4

3. Analysis of Cost Structure

In an overall sense, analysis of marginal effectiveness of costs reflects the contrasting relationship between added costs and increased income. But a very large number of items make up costs in agricultural production, so what is the major area in which economic effectiveness can be improved? It is also necessary to make a specific analysis of the structure of costs. There are 10 different items making up the cost of wheat production. Those accounting for the greatest proportion and changing fairly greatly are shown in Table 3 (averaging expenditures per mu).

Among the three cost items shown in Table 3, the ratio of total costs is greatest for fertilizer and pesticides (mostly fertilizer), and during the 8 year period from 1974 to 1978, they accounted for more than 40 percent of total costs. The extent of increase in fertilizer expenses was very great, increasing from 12.76 yuan per mu in 1974 to 23.09 yuan per mu in 1981, or almost double. However, a look at the increase in yields resulting from fertilization shows yield increases to have been vastly lower than the increase in fertilizer expenses. This brings a problem into sharp relief. For future increases in the amount of fertilization, the optimum value of marginal output derived should be used as a yardstick for measuring the additional amount of fertilization. Only in this way can one derive optimum economic effectiveness.

Table 3

Year Item	1974	1975	1976	1977	1978	1979	1980	1981
Fertilizer and Pesticide	12.76	7.39	13.51	12.33	16.27	16.07	16.39	23.09
Machine Operation Expenses	4.63	4.85	4.15	5.20	2.77	9.15	11.53	12.12
Indirect Expenses	3.83	10.91	8.10	5.48	7.72	10.63	21.41	9.92

Note: Indirect expenses included enterprise management expenses and joint production expenses.

Expenses for machine operations also accounted for a substantial proportion of the cost structure. Up until 1979 it accounted for from 16 to 18 percent of total costs; after 1980, it increased to more than 20 percent. It went from somewhat more than 4.00 yuan per mu to somewhat more than 12 yuan per mu, a threefold increase. Costs for machine operations are fairly stable for the growing of wheat. The need to create soil moisture as a result of the drought of the past several years slightly increased the amount of work, and the increase in machine operation expenses was occassioned principally by poor maintenance and care, which created an increase in costs per standard mu. Future attention to maintenance and care of machines for a lowering of machine operation expenses is a major way in which to increase economic effectiveness.

The fairly numerous indirect expenses are a major element adversely affecting economic effectiveness. During the past several years both enterprise management expenses and joint production expenses have risen tremendously. They rose from an average 3.83 yuan per mu in 1974 to about 10.00 yuan per mu, an almost threefold increase accounting for 20 percent of total costs. Rise in indirect expenses increased both costs per unit of area and costs per unit of product. The relationship between indirect expenses and direct technical measures in production is not great, so vigorous efforts at conservation should be made in future to the maximum extent possible.

4. Strengthening of Economic Management In Order to Increase Economic Effectiveness

All production on state-owned farms should have as its fundamental point of departure increase in economic effectiveness. This requires that the farms strengthen economic management, and operate on the basis of economic laws and natural laws. Economic management should serve to increase economic effectiveness.

Management of costs is a major ingredient in the economic management of farms. Application of complete cost accounting data to analyze dynamic trends and to analyze static structure can forecast the direction of added costs, determine the appropriateness of costs, and gain the optimum obtainable economic effectiveness. Agricultural product production costs reflect the degree of intensiveness of agricultural production. The object of cost management is not to shrink costs passively, but rather should be to actively add to costs to gain the highest degree of improvement in economic effectiveness, i.e. when the value of increased output is greater than added costs to add to costs. The task of cost management is to find this optimum degree of intensivity.

Use of marginal analytical methods to conduct marginal analysis of costs and their economic effectiveness makes it possible to see clearly at any stage the economic results of added costs, thereby being able to select the amount of cost investment that will derive optimum economic effectiveness. When the objective conditions for increasing costs are not present, one should not blindly increase costs. Our research and dissemination in this regard is currently still very insufficient and urgently requires strengthening.

9432
CSO: 4007/584

SHANXI

EFFORTS TO CONTROL EROSION UNDERWAY

Beijing ZHONGGUO NONGMIN BAO in Chinese 19 Aug 82 p 1

[Article: Luliang Prefecture Hastens Pace of Water and Soil Conservation Work; Genuinely Strengthens Leadership and Promotes Advanced Experiences"]

[Text] Since the Third Plenary Session [of the 11th Party Central Committee], Luliang Prefecture in Shanxi Province has genuinely strengthened leadership, has summarized and spread experiences, and has hastened the pace of water and soil conservancy work.

Since the founding of the People's Republic, Luliang Prefecture has brought erosin under control over a 6.41 million my area, or 35.6 percent of its total land area. Following the Third Plenary Session, the party's rural policies stimulated the enthusiasm of the broad masses of people, and between 1979 and 1981, 450,000 mu was brought under control annually. This amounted to 2.5 percent of the total soil erosion area and was 157 percent faster than during the previous 29 years.

In order to strengthen leadership of water and soil conservation work, the prefecture's government administrative offices established a soil and water conservation bureau, which annually convened two conferences on soil and water conservation to summarize and spread experiences and to formulate overall programs for farming, forestry, and animal husbandry in which forestry predominated, and put forward the "two soil method." By this was meant the division of existing cultivated land into two kinds. One kind of soil was for development of grain and oil-bearing crops primarily to solve the problem of food for the masses. The other soil was premarily for development of economic forests to solve the problem of the masses spending money. This specifically provided for the "building of land, the planting of trees, the growing of grass, attention to livestock, interception of water, and the building of roads." Methods of control used three combinations: 1. a combination of botanical measures and engineering measures, attention going first to botanical measures; 2. a combination of control of ravines and control of slopes, attention going first to control of slopes; and 3. a combination of control of the upper and control of the lower, attention going first to controlling the upper. Throughout the prefecture numerous good representative cases occurred. One was in

Zhongtanggou Production Brigade in Fangshan County where between 1973 and last year a total of 1,030 meters of river dams were built, 560 mu of river shallows brought under control with benefits already accruing from 400 mu, and the gradual return to forests and pasturage of cultivated slope land. The cultivated area has declined from the former 3,100 mu to 1,500 mu; total grain output has increased from the former 130,000 jin to 328,000 jin, and a change has taken place from the eating of 30,000 jin of grain resold by the state to the sale of 50,000 jin to the state. Following the withdrawal of land from cultivation for return to forests, active afforestation and planting of grass was done. The amount of woodlands averaged 8.5 mu per person in the brigade, and the amount of grassland 1 mu. The livestock industry saw commensurate development. Now this prefecture is actively adopting measures to bring to a halt the situation in some areas of clearing steep slopes and destruction of forests to clear land. In serious cases, it is meting out punishments to fairly good effect.

9432
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TITLE: "An Experiment in Numerical Forecasting of Typhoon Tracks With Nested Models"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 257-270

TEXT OF ENGLISH ABSTRACT: In order to improve the prognosis of typhoon movement, the nested mesh schemes for the primitive equation models are presented in this paper. An experiment on prediction for some examples had been made by using these schemes. It is shown from the calculation that the methods for conjunction and adjustment of dependent variables at the juncture of coarse-mesh and fine-mesh are effective and the axial-symmetrical typhoon circulation simulated by the normal distribution is suitable for the prediction of typhoon movement by using numerical models. One of the schemes was tested during the typhoon season in 1980 and resulted in the improvement, to a certain degree, in the forecast of the typhoon tracks. This paper was received for publication on 12 December 80.

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TITLE: "An energetic Analysis of A Landed Typhoon"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 289-299

TEXT OF ENGLISH ABSTRACT: The case selected in this study is an intense typhoon (Billie) which moved over the Southeast China and interacted with an extratropical frontal system. Kinetic energy (KE) budget and available potential energy (APE) were computed by using the quasi-lagrangian scheme during the period of 10-12 Aug 1976. The main results of this study are: (1) In the weakening process of the landed typhoon, exchange of KE with the environment was small. Then, the typhoon could be considered as a "quasi-closed" system. (2) In the various weakening stages of the landed typhoon, the thermodynamic and dynamic processes were different. When the typhoon moved just over land and accompanied with heavy rain, the latent heat and moist convection were still the major source of KE. The energy sink due to cross-contour flow in the upper troposphere was the important reason for the decrepitude of the typhoon. The barotropic process was dominant in the decrease of KE. However, after the typhoon interacted with the westerlies, the KE generation by

[continuation of QIXIANG XUEBAO No 3, 1982 pp 289-299]

baroclinic process increased and the frictional dissipation played a significant role in this stage; (3) Throughout the period of interest, large amount of APE entered into the environmental atmosphere through the lateral boundaries of the typhoon circulation. This may be one of the major processes of interaction between the typhoon and the surroundings.
This paper was received for publication on 10 Dec 80.

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TITLE: "The Constant Energy Tubes of a Landing Typhoon"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 300-309

TEXT OF ENGLISH ABSTRACT: In this paper, based on isentropic relative-flow analysis, it is found that there are constant energy tubes in typhoon. These constant energy tubes appear also in the severe rainstorms produced by other synoptic systems, such as the vortices in Southwestern China and warm shear line. It is pointed out that these constant energy tubes play an important role in the summer energy balance of the atmospheric general circulation.
This paper was received for publication on 18 Mar 81.

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TITLE: "Moisture, Sensible Heat, and Kinetic Energy Budgets During the Heavy Rainfall"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 310-318

TEXT OF ENGLISH ABSTRACT: In this paper the kinetic energy, sensible and latent heat budgets over limited area are calculated during the heavy rainfall in July 1977. In the heavy rainfall system sensible and latent heat, supplied from surroundings, are converted into kinetic energy, which is transported out of the area at upper levels by horizontal flux divergence. Subgrid-scale motion leads to increase of sensible heat and decrease of latent heat of the grid scales of motion. Transfer of kinetic energy from subgrid to grid scales of motion is observed in the area with most intense rainfall, but an opposite transfer occurs in its surroundings. Some results of this paper are useful for designing numerical models of precipitation.
This paper was received for publication on 20 Apr 81.

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TITLE: "Ultra Low-level Jets and the Heavy Rain in Early Summer Over South China"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 319-326

TEXT OF ENGLISH ABSTRACT: In this paper, the eight cases of heavy rain over South China are analyzed. It shows that the process of the heavy rain associated with the 102 ultra low-level jets--southerly jets of sub-synoptic scale at low-level in boundary layer. It is a significant factor of heavy rain in early summer over South China.
This paper was received for publication on 13 Jul 81.

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TITLE: "On the Light and Thermal Resources and the Crop Potential Productivity--Taking Luancheng County of Hebei Province as an Example"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 327-334

TEXT OF ENGLISH ABSTRACT: The process of photosynthetic production of crop is divided into three steps for analyzing their limiting factor and photosynthetic efficiency. On this basis, the parameters are determined and a calculation scheme is established; meanwhile the temperature correction being made. Taking Luancheng as an example, the potential productivities of wheat, maize, rice, and for different cropping system have been investigated. Finally, some measures for increasing the potential productivity and the efficiency of utilization of light and heat are discussed.
This paper was received for publication on 10 Jul 81.

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TITLE: "Wind Regime Beneath Crop Canopies and Its Model"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 335-343

TEXT OF ENGLISH ABSTRACT: The characteristic features of horizontal and vertical wind-speed distribution beneath crop canopy are discussed. It is found that there exists an assymmetric "S" pattern vertical profile. Deficiency of commonly used models of horizontal and vertical profiles inside crops is also analyzed. A new model describing wind speed inside crops is proposed on basis of theoretical analysis and empirical fitting. According to this new model the computed mean wind speed, whether in horizontal distribution or along vertical profile, is in fairly good conformity with the real data.
This paper was received for publication on 19 Oct 81.

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TITLE: "Some Microclimatic Effects of Reclamation"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 353-360, 326

TEXT OF ENGLISH ABSTRACT: In this paper, the field observation data of cultivated and uncultivated land at Hulunbeier for two years in succession are used. The authors analyzed the variations of soil hydrothermal condition, atmospheric dynamic and thermodynamic condition near the ground, and surface heat balances during the period between spring and summer (May-June)after reclamation. It is indicated that the microclimatic effects of reclamation are many sided and obvious, especially, the thermodynamic effects. So, one must pay attention to the influences of such human activities as reclamation on climatic conditions.
This paper was received for publication on 8 Sep 81.

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TITLE: "A Criterion of Autumn Rain Forecast in Shanghai"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 361-365

ABSTRACT: Based upon the autumn rain and related data of Shanghai of the period 1874-1979, a graph is made to depict the average rainfall of 10-day periods of every month in these 106 years. The graph demonstrates clearly that just like the plum rains in the spring, the autumn rains in Shanghai are concentrated in a rainy season, from late Aug to middle Sep. The amount of rain in that period has a great effect on the yield of cotton. Surveys indicate that rains heavier than 210 mm may cause a 30 percent yield reduction of cotton. Following descriptions of the atmospheric circulation pattern and the weather characteristic of that period, the paper concludes that the beginning, continuation, and conclusion of autumn rains are the results of the 2 great adjustments of long wave trough and ridge of the westerlies and following the each of the 2 adjustments, the secondary high declines and receded. Finally, a correlation between the average intensity of the secondary high at 500 mb in Aug and the subsequent autumn rainfall is discovered. The average intensity of the secondary high in Aug is used as a criterion to check the amount of rainfall in Sep of 1979 and 80. The results correspond very well with the reality.
This paper was received for publication on 18 Feb 81.

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TITLE: "Estimation of Artificial Rainfall Effect"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 3, Aug 82 pp 381-385

ABSTRACT: With reference to the quantitative estimate equation suggested by Simpson et al in the JOURNAL OF ATMOSPHERIC SCIENCE (Vol 30, 1973 pp 1178-1190), the paper demonstrates mathematically that a certain deviation exists in the estimation using that equation. Effect of an artificial rainfall test in Hebei Province using urea as the catalyst is analyzed with the equation of Simpson as well as the method proposed by the author in the paper. With Simpson's technique, the relative increase of rainfall is 33.5 percent; with the author's technique, it is 49.3 percent. The difference remains apparent.

This paper was received for publication on 29 Jun 81.

6248
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TITLE: "Survey Report of Fava Bean [Broad Bean] Production in Jingzhou Prefecture"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 9, Sep 82 pp 8-11

ABSTRACT: A survey of broad bean production in Jingzhou Prefecture was carried out in 11-20 May this year jointly by the Cropping System Research Conference, the Grain Crop Society, Plant Protection Society of Hubei Provincial Society of Agriculture, the Jingzhou Prefecture Society of Agriculture, and the Jingzhou Prefecture Bureau of Agriculture, and the leaders and specialists of several local bureaus of agriculture. In 1953, broad bean was a summer crop in the prefecture for adjusting soil fertility, having an acreage of 2.23 million mu and a yield of 127 jin/mu. The low temperature in 1956 led to severe reduction of yield and the leaders of that time ideologically emphasized the production of major food grains to result in gradual decrease of the acreage of broad beans. It was down to 882 thousand mu in 1980. Since then, the leaders of various levels have noticed that excessive continuous cropping of wheat and cotton has caused serious damage to soil fertility. A series of measures have been adopted to introduce superior breeds of broad beans, to extend its high yield technology, and to organize teams to learn from regions outside the prefecture. In 1982, the acreage was restored to 996 thousand mu and an average

[continuation of HUBEI NONGYE KEXUE No 9, 1982 pp 8-11]

yield of 189 jin/mu was obtained. The yield was especially high in some commune-brigades of rice paddy areas, reaching 300-500 jin/mu. Aside from the acreage and the condition of production of 17 brigades of 15 communes of 9 counties of the prefecture, the paper also reports the result of using broad bean crop before cotton to promote the yield of cotton and the result of using broad been in rice paddies to raise the crop-repeating index. Key techniques for obtaining high and stable yield of broad bean are also suggested.

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TITLE: "Research on Winter Prospering Rape"

SOURCE: Wuhan HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 9, Sep 82 pp 15-17

ABSTRACT: Using the form of growth of rape plant in winter (before Little-cold = 6 Jan] as the standard, if there are 5-6 green leaves, with a leaf area coefficient < 0.5 and a dry weight of plants $\leqslant 100$ jin/mu, it is called winter-holding rape; if there are 7-8 leaves, with a leaf area coefficient of about 0.8 and a dry weight of about 150 jin/mu, it is called winter-vigor rape; if there are 9-10 leaves, with a leaf area coefficient above 1.2-1.5 and a dry weight of above 200 jin/mu, it is called winter-prospering rape. There is a close relationship between this form of growth and the subsequent yield. The yield of the winter-prospering type of rapeseed is 89.4 jin/mu higher than the winter-vigor type, an increase of 39.6 percent, and 158.9 jin/mu higher than the winter-holding type, an increase of 101.7 percent. Results of an experiment in 1978-80 also indicate that the better is the winter-prospering form, the higher is the yield. The spring growth phenomenon and the physiological characteristics of winter-prospering rape crops and the relationship between the quality of growth in the winter and the subsequent yield are explained. The environmental conditions necessary for obtaining winter-prospering rape in the middle reaches of Changjiang, including various experimental data, are introduced.

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China Report

AGRICULTURE

No. 235

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AGRICULTURE

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I. GENERAL INFORMATION

THEORY PROPOUNDED FOR EVALUATING, READJUSTING AGRICULTURAL STRUCTURES

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese
No 8, 23 Aug 82 pp 3-7

[Article by Deng Honghai [6722 1347 3189], Technical Economics Institute, Chinese Academy of Social Sciences: "Theory and Methods of Readjustment of the Agricultural Production Structure"]

[Text] Rationalization of the structure of agricultural production is a major task in the current readjustment of the national economy. In recent years, the work of readjusting the structure of China's agricultural production has achieved initial success. However, as a result of longterm inattention to the study of agriculture from the angle of its structure, the foundation for research work on its structure is weak, and in both theory and methods for readjustment of the agricultural production structure, four problems still exist today. One is that the concept of agricultural production structure is still limited to economic description; it has not risen to the category of a precise science. Second is that only the proportion of the five industries [agriculture, forestry, animal husbandry, sideline occupations, and fisheries] is considered and systematic analysis and overall balance of the overall structure of agricultural production is ignored. Third, rationality of the structure is evaluated only in terms of the proportional size of the farming industry rather than in terms of the structure's overall effectiveness. Four, qualitative and quantitative analysis of the structure of agricultural production in each area is lacking, and no optimum structural plans are presented. As a result, a set of scientific theories and methods are urgently needed for systematic study of the structure of agricultural production, so that readjustment of agriculture everywhere can be genuinely carried out to get the optimum structure for local conditions. Furthermore, systematic study of the structure of agricultural production requires, first of all, a systematic understanding of agricultural production itself.

1. Agricultural Production is a Complex System Formed of a Combination of an Agricultural Ecological System, an Agricultural Technical System, and an Agricultural Economic System.

One essential characteristic of agricultural production that differs from the industrial and other sectors lies in certain agricultural production not only using a definite ecological system as its environment, but also that a definite ecological system is its means of production, i.e. agriculture always uses a definite ecological system to conduct material production. This system, which uses the photosynthesis of green plants in a definite ecological system to produce organic products, forms a definite type of agro-ecological system. Within this system, the amount of organic matter that plants fix and form from solar energy constitutes this system's primary output or biological output. The herbivorous animals that depend on plants for nourishment constitute this system's secondary output. Carnivorous animals that use herbivorous animals to live constitute this system's tertiary output. Yet other carnivorous animals that use these carnivorous animals to live constitute the quarternary and quintenary output. Any output provided for the consumption of mankind in the biological output of these levels constitutes economic output. After mankind consumes these economic outputs in production or in daily life, he breaks the original balance of this ecological system, some of the energy and material taken away not being restored to the system. This requires that people use farm labor to put in economic energy and economic material (the energy and material that can be obtained only through labor) to make up the shortfall so as to maintain the energy circulation and material cycle of this system. Moreover, agricultural labor is always carried out by using definite technical systems within a definite economic system. Consequently, for every period of energy flow and material cycling in the agricultural ecological system, people have to put economic energy and economic materials into this agricultural ecological system from a definite agricultural economic system through a corresponding agricultural technical system, and take economic goods from the energy and materials put out by this agricultural ecological system. Agricultural preproduction is carried on through a process of mutual exchange of economic energy and economic material for natural energy and natural material through the agricultural technical system of the agricultural economic system. From this may be seen that any agricultural production must be a complex system that combines a definite agricultural economic system, an agricultural technical system, and an agricultural ecological system.

This essential characteristic of agricultural production, and this special position of the agricultural ecological system in agricultural had not been consciously understood by mankind for a long historical period. Ever since the industrialization of agriculture in developed countries, people have been accustomed to regarding agriculture from the same point of view that they regard industry, looking only at its economic system and technical system and ignoring its ecological system and the technical system in the modernization of agriculture, but did not devote attention to improving benefits from the ecological system. As a result they were repeatedly punished by ecological laws, sustained losses and setbacks time after time, and only after the worldwide ecological crisis and energy crisis appeared did these advanced countries have no choice but to examine their already developed agriculture in terms of a combination of the economic, the technical, and the ecological in an effort to explore a new agricultural model combining the economic, the technical, and the ecological. This was an instance in which natural laws and economic laws forced people to regard the mutual role of the three systems as an organic whole. In the course of the readjustment of China's agriculture, we should absorb the historacal experiences and lessons of world development of agriculture, respect the objective fact of agricultural production being formed from three sub-systems, consciously regard the mutual role of these three sub-systems as an organic whole, and make a highly comprehensive assessment of the structure of agriculture everywhere in terms of a combination of these three sub-systems. With the goal of improving the overall effectiveness of these three sub-systems, we should determine to readjust the structure of agricultural production everywhere to make it a certain kind of structure, thereby placing readjustment of China's agriculture on a scientific path. If we do not, we will sustain the merciless punishment of objective laws, and after being punished, we will still have to understand agricultural production in this way.

Actually, the classical works of Marxism long ago expounded such a situation in agricultural production. Marx said, "No matter the special social nature of the process of economic reproduction, within this sector (agriculture), it is always intertwined with a natural reproduction process." ("Complete Works of Marx and Engels," Vol 24 pp 398-399, Renmin Chubanshe, 1972.) The economic reproduction process spoken of here means the transformation of labor the circulation of funds, and the economic material and economic energy cycles is the agricultural economic system. The basic functional unit in economic reproduction is a definite agricultural economic system. The natural reproduction process spoken of here means the energy transformation and material cycle in the agricultural ecological system. The basic functional unit of natural reproduction is a definite agricultural ecological system. The intertwining of these two reproduction processes means a series of energy and material transformations in the agricultural economic system through the agricultural technical system and the agricultural ecological system. The economic energy and economic material of the agricultural economic system is transformed through labor into physical energy and chemical material in the agricultural technical system. Within the agricultural ecological system, the agricultural technical system's physical energy and chemical material is transformed into biological energy and biological material. These material products of the agricultural ecological system are transformed in turn by the agricultural technical system into economic products and sent into the economic system. Even though ecological theory had not been formed at that time and Marx was unable to make a systematic analysis of the natural reproduction process in the same way he had done for the economic reproduction process; nevertheless, Marx's brilliant exposition of the nature of agricultural production provided us a theoretical basis for systematic understanding of agricultural production. Today when ecological science and systems science are flourishing, by following Marx's line of thinking for further penetrating understanding of agriculture in order to make a further systematic analysis of agricultural production, and to define agricultural production in terms of a complex system formed of an agricultural economic system, an agricultural technical system, and an agricultural ecological system permits us to raise the concept of agricultural production from the empirical description stage to the category of an exact science. Marx said that only when science successfully applied applied mathematics could it reach the point of perfection. ("Complete Works of Marx and Engels," Second Russian Language Edition, Vol 33, p 72) By using a systematic concept to understand agriculture and to define agricultural production in terms of a complex system of three sub-systems, it is possible to use systems engineering techniques to describe agricultural production mathematically, and to analyze systematically, both qualitatively and quantatively and ever more concretely, agricultural production everywhere so that we can both ever more accurately master agricultural production in terms of its qualitative forms and within its quantative limits to make agricultural management increasingly rational and scientific.

2. The Structure of Agricultural Production Is a Three Dimensional Network Formed by the Intertwining of the Agricultural Economic Structure, the Agricultural Technical Structure, and the Agricultural Ecological Structure

The agricultural production structure that is seen by looking at agricultural production using systematic concepts is not the five industry structure of farming, forestry, animal husbandry, sideline occupations, and fisheries, but is rather a three dimensional network structure formed by the intertwining of the agricultural economic structure, the agricultural technical structure, and the agricultural ecological structure in which the agricultural economic structure, the agricultural technical structure, and the agricultural ecological structure are first order structures of agricultural production. These three kinds of first order structures are divided, in turn, into various second order structures. The agricultural economic structure includes: 1. The economic component structure, which in China's socialist agriculture is a structure in which the state economy, the enterprise economy, and the household privately retained economy are combined. 2. The production, distribution, exchange, and consumption structures within the economic reproduction process. 3. The economic sector structure, a structure formed from a combination of the farming, forestry, animal husbandry, sideline occupation, and fishery sectors. 4. The economic regional structure, by which is meant the spatial structure and regional distribution of agricultural production. The agricultural technical structure includes: 1. A structure formed from physical techniques, chemical techniques, and biological techniques. 2. A structure formed from a combination of primitive techniques, traditional techniques, transitional techniques, and modern techniques. 3. The product input and output structure, that is the direct consumption coefficient matrix. The agricultural ecological structure includes: 1. A structure composed of diverse agricultural ecological systems (including forests, grasslands, farmlands, waters, residential areas, and garden systems) in a given area. 2. A biological community structure (plants, animals, and micro-organisms) within individual agricultural ecosystems. 3. The energy balance, moisture balance, and nutrient balance within regional ecosystems and individual agricultural ecosystems. These second order structures are formed from diverse third order structures. These include the balance between income and expenditures within the national, the enterprise, and the household economies; the proportion between consumption and accumulation in distributions; the proportion of various crops in agriculture in a narrow sense (farming), the livestock and poultry structure within the animal husbandry industry; the proportion of the five kinds of forests and the proportion of forest crops within the forestry industry, as well as the proportional amount of felling, processing, and afforestation; the enterprise type structure, the product structure, and the production and marketing structure within industrial sideline industries; the proportional amount of catching and breeding and the proportion of power machines, traditional machines, and work machines within physical techniques; the structure formed from various kinds of techniques in each technology; and the colony structure within various biological communities. These third order structures are in turn composed of fourth order and even greater order structures. Such an order by order breakdown can be continued endlessly, and with each breakdown by order, our analysis of the structure of agricultural production deepens a little. Through such a step by step deepening of understanding, our understanding of the structure of agricultural production becomes increasingly concrete. Not only can the various structures of each order in the three sub-systems of agricultural production be broken down (or analyzed) qualitatively, but quantative formulations may also be made. No matter the kind of system, the order, or the aspect of a structure, it can be depicted in energy terms, or expressed in terms of amount of labor consumption, amount of value, amount of currency, amounts of various materials, amounts of time, and amounts of space. Some structures in the agricultural ecosystem cannot be described in terms of conversions to amounts of currency. In addition, a specific structure always corresponds to a specific function. The size of function reflects the degree of rationality of the structure. Consequently, all structures may be described in terms of their function.

In such a systematic view of the structure of agricultural production in which the structure and function of each aspect of each order of each agricultural ecosystem in all kinds of agricultural economic systems, agricultural technical systems, and agricultural ecosystems are organically combined in a total and comprehensive system shows the existence of an inherent relationship between all kinds of microcosmic structures and functions, and between the structure and function of each microcosmic structure and function and the macrocosmic structure and function of agricultural production as a whole. Thus, not only are we able to use the telescope of large scale grain production in large scale agriculture for the study of the structure of agriculture in breadth, and not only are we able to use the microscope of observation of the microcosmic structure for the study of the agricultural structure in depth, but we are also able to analyze systematically the entire structure of agricultural production. If we formulate and quantify one by one the various individual structures and functions of a certain order and determine the quantative relationship of these structures and functions, it is possible to set up an agricultural production model, and electronic computers can rapidly and accurately calculate on the basis of different inputs (readjustment programs) corresponding outputs (results, benefits, and effects). This can provide a scientific basis for selection of the optimum readjustment program and rationalization of the structure.

More importantly, such a systematic understanding of the structure of agricultural production greatly enriches in breadth and in depth the content of the work of readjusting the structure of agricultural production, so that the structural readjustment work is not just a matter of the proportions of the five industries, but rather really proceeds from the realities of the structure of agricultural production in each individual area, uncovers existing irrationalities through a seeking for truth in facts, and permits readjustment by suiting the medicine to the illness. Within the existing agricultural production structure of individual places, irrationalities are not necessarily or not only in the structure of the five industries, but may also appear in the economic component structure, the agricultural ecological structure, and agricultural technical structure, or in the agricultural economic reproduction structure. They may also occur in the regional structure. Whatever the irrationality, it can only be determined through systematic analysis of the local agricultural production structure.

To conduct a readjustment of the structure of the five industries throughout the country using identical proportions everywhere in a stereotyped way is the same as the many "arbitrary uniformity" methods formerly applied to the country's industrial work in that they contravene the principle of "adaptation of general methods to local situations" in agriculture. Natural and economic conditions differ from place to place, so there can be no identical agricultural ecological structure, agricultural technical structure, and agricultural economic structure, and thus there can be no identical proportions of the five industries that is suited to its own individual conditions, and this optimum proportion can only be found in the overall relationships of the local agricultural production structure.

Looked at in terms of actual circumstances obtained in the agricultural production systems throughout the country, readjustment of the structure of agricultural production at the present stage requires attention principally to work in the following regards: (1) Each area has to find the optimum model for the constituent structure of its agricultural economy (the three tiered state, enterprise, and household economy) suited to the local area so that the present rural production responsibility systems can be improved. (2) Each area has to find the optimum agricultural ecological structure suited to the local area and use this optimum agricultural ecological structure to administer and manage the existing agricultural ecological structure, to improve and restructure the existing agricultural agricultural ecosystem, and to renovate and rebuild a highly efficient agricultural ecosystem. (3) Each area has to find the "suitable agricultural technical system" for the locale, so that China's level of intensivity in agriculture will be constantly increased while at the same time occasioning no "incremental reductions in remuneration." (4) All areas should find the agricultural economic reproduction structure suited to local conditions for most effective integration of agriculture, industry, and commerce. (5) Each area should find the optimum agricultural regional structure for the area, and combine readjustment of local crop patterns, departmental structures, and ecological structures to make the most of regional advantages of local agriculture. (6) Each area should find the optimum local departmental structure and input-output structure so that agricultural production will be able to satisfy to the maximum extent possible the needs of society with limited consumption. Naturally the work to be done in these several regards cannot be done in a disjointed way, but must proceed from the all-around benefits derived from agricultural production as a whole with planning being done in an overall way and carried out in a coordinated way.

3. The Criterion For Rationality of the Agricultural Production Structure Is the Overall Effectiveness of the Agricultural Technical Structure and the Agricultural Ecological Structure

In using systems concepts to look at the structure of agricultural production, one cannot use the proportions of the five industries in agriculturally developed countries or the proportional size of the farming industry as criteria; for the rationality of the production structure, but rather one can only use as a criterion the overall effectiveness of the ecological structure, the technical structure, and the economic structure in agricultural production.

It may be seen from the foregoing analysis of the structure of agricultural production that the structure of the five industries cannot encompass the total agricultural production structure. It is but one aspect of the agricultural production structure. If we divorce ourselves from the ecological structure of agriculture, the technical structure of agriculture, and other aspects of the economic structure of agriculture and isolatedly and lopsidedly look only at the structure of the five industries, it will be impossible to make a comprehensive and realistic evaluation of the structure of agricultural production. The structure of the five industries is determined by the natural conditions and economic conditions for agricultural production, and conditions in individual countries and individual areas differ in thousands upon thousands of ways, so the structure of the five industries cannot be the same. Were a stereotyped structure for the five industries to be used throughout the country and throughout the world, the structure would not be adjusted for the better but only for the worse. The structure of the five industries in agriculturally developed countries suits the natural and economic conditions of these countries; it is suited to their agricultural ecological structures, agricultural technical structures and agricultural economic structures. Their agricultural technical systems are founded on petroleum, and the mineral energy currently being inputed to the agricultural ecosystem is greater than the output of food energy. In reality, more than 1 jin of petroleum is exchanged for 1 jin of grain. China's needs for food and other agricultural products are much greater than in these countries. Were China to copy their agricultural economic systems, the amount of petroleum annually required by the country's agriculture would also be greater than theirs, and where would such a large amount of petroleum come from? Even were a source available, how could we afford to use it? In addition, this kind of technical system is suited only to large area growing of single kinds of crops using large amounts of chemical fertilizers, herbicides and pesticides. Expansion of this technical system would lead to soil exhaustion, environmental pollution, and destruction of the ecological balance. We cannot copy such an agricultural technical structure and agricultural ecological structure. Inasmuch as China's agriculture cannot copy these developed agricultural technical structures and agricultural ecological structures, the structure of the five industries in China's agriculture can likewise not be like theirs. To have our country emulate developed countries in the proportions of the five industries of agriculture uncaring of China's realities is extraordinarily dangerous. It is also necessary to realize that the proportions of these five industries and of the farming industry are relative figures, and the specifications determined for the five industries are also not identical. Separation from absolute figures and other related circumstances and looking only at these relative figures may frequently lead to ridiculous actions.

Use of the proportions of the five industries will not work, but will use of five basic requirements to measure and evaluate the agricultural production structure of individual places work? The question is whether these five basic requirements will be in accordance with the basic laws of socialist economy, make the most of natural resources, constantly maintain the harmony and balance of all sectors, obtain optimum economic benefits, and help the application of advanced techniques. (See "Readjustment of the Structure of Agriculture and Development of Agricultural Production," published in "Agricultural Economy Reference Materials" by the Agricultural Economics Institute of the Chinese Academy of Agricultural Sciences, Issue No 8, 1981). This article says that any technical economic activity has to follow certain principles and that direct use of these principles to evaluate any specific technical economic activity will not work. All technical economic activities have their own individual specific results. Evaluation of these specific results requires making specialized standards, specialized criteria systems, and specialized evaluation methods out of these principles. Evaluation of the rationality of agricultural production structures is also like this. The concrete manifestation of their rationality is various specifically intended results. Consequently, they require specialized criteria systems, and specialized evaluation methods.

Inasmuch as the structure of agricultural production is a multi-layered structure composed of the agricultural economic structure, the agricultural technical structure, and the agricultural ecological structure, an evaluation of the rationality of the agricultural production structure requires an all around evaluation of the rationality of various individual structures in individual aspects of individual orders in the systems making up the agricultural production structure. For every specific structure there is always a specific corresponding function, and a specific function naturally produces a corresponding benefit. Consequently the criterion for evaluating the rationality of a structure has to be the benefits of this structure. On the basis of the various aspects of the individual orders of this overall system in agricultural production, the agricultural economic structure may be divided in terms of function into an agricultural technical structure and an agricultural ecological structure. Therefore, standards for evaluation of the rationality of the agricultural production structure must be the overall benefits provided by these economic structures, technical structures, and ecological structures. These overall benefits correspond to the sum total of agricultural economic benefits, agricultural technical benefits, and agricultural ecological benefits. Comprehensive evaluation of the three kinds of benefits from these three kinds of structures permit us to make a comprehensively systematic and accurate evaluation of the rationality of the agricultural production structure everywhere, to find the irrational links, and to set a course for readjustment of the structure.

Any evaluation of the rationality of an agricultural production structure must be a comprehensive evaluation of agricultural economic benefits, agricultural technical benefits, and agricultural ecological benefits, and not just an evaluation of economic benefits. A dialectical relationship exists among economic benefits, technical benefits, and ecological benefits in agricultural production, and there is both a mutual unity and a mutual contradiction among them. In a situation wherein the existing techniques of developed countries are taken to be symbols of agricultural modernization with blind pursuit of the advanced techniques of these countries, and use of the quantities of machine power, chemical fertilizers, and pesticides as are used per unit of area in these countries so that the speed of increase of things that converted from mineral energy greatly exceeds the speed of increase in agricultural products, and the speed of increase in material expenditures greatly exceeds the speed of increase in output, results in increased output with no increase in earnings or even reduced earnings, and ever decreasing economic benefits from these advanced techniques. This is a common manifestation of the contradictory unity of technical benefits and economic benefits. In circumstances of a plundering style of operations in agriculture, blind pursuit of momentary economic advantage, much use and little nourishment, and taking much but restoring little to cultivated land; reckless cutting and denudation of forests with much cutting and little afforestation so that the amount of felling is greater than the amount of growth; overgrazing of grasslands that are only used but not nurtured; and overfishing in the fishing industry all lead to deterioration of the ecological environment and steady decline in resources that plunges agricultural production into a vicious cycle. This is a general manifestation of the contradictory unity of economic benefits and ecological benefits. Countless lessons of history of the past and present, from China and from abroad have taught us that when evaluating and readjusting the structure of agricultural production, there can be no proceeding in isolation from a single benefit, but rather one must proceed from the heights of a combination of economic benefits, technical benefits, and ecological benefits. It is particularly important not to divorce oneself from ecological benefits because any evaluation or readjustment that is divorced from ecological benefits will be deficient and narrow. In long range terms and overall terms, such an evaluation and readjustment will be bound to be unreliable.

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SURVEY REPORT ON PLANNED ECONOMY ISSUED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 1982 pp 63-64

[Article: "Survey on 'Agriculture Should Also Institute Taking the Planned Economy as the Key Link With Market Regulation Being Supplementary' Carried Out Jointly by the Chinese Academy of Social Sciences and Eight Provinces"]

[Text] Discussion and exchanges took place between 25 and 30 June about a survey on "agriculture should also institute taking the planned economy as the key link with market regulation being supplementary." This survey, the drafting of an outline for which had begun in late March, was carried out during April and May. It had been jointly organized by the Economics Institute of the Chinese Academy of Social Sciences and the economic research institutes (or offices) of the social science academies (or institutes) of the eight provinces of Guangdong, Zhejiang, Jiangsu, Anhui, Shandong, Sichuan, Gansu, and Liaoning. Also invited to participate in the survey and discussions was a total of more than 50 people from the Institute of Economics of the State Planning Commission, and both theoreticians and people engaged in practical work from departments concerned and from institutions of higher learning in the eight provinces. The survey report presented to the discussion meeting consisted of 22 pages containing about 180,000 characters. During the second half of the year, several special topics will continue to be surveyed in depth.

The content of this survey was divided into two main parts. One was on the management and organization of agricultural planning. The other was on problems in planning and management in the rural commodity flow area. Comrades who participated in the survey and discussions believe that with the rapid development of agricultural production, new changes have taken place in both the structure of the rural economy and farm crop patterns, and that the commodity flow area has begun to come alive. In order to adjust to the diverse kinds of responsibility systems in agricultural production, to the rural businesses' economically diversified components and methods of economic diversification, and to the multiple flow channels and multiple forms of pricing in urban and rural markets, a new road has to be explored for further strengthening planning of the direction of agriculture, to insure that the rural economy is lively without being chaotic, and that it is regulated without being stifled. In the discussion, everybody stressed the following several ideas for reform: (1) A good job of overall balance. It is organization and realization of an overall balance in the national economy that the planned economy has to solve. Agriculture is a basic sector in the national economy, and agricultural planning must first of all break through its narrowness in considering only production and procurement to formulate unified plans for production, supply, and marketing. These unified plans also have to be placed within the context of total national economic balance for genuine solution to agriculture's "fundamental" position in the formulation of priorities and norm systems in plans. (2) A firm grip on grain production. Correct handling of the relationship between grain crops and economic crops has long been at the center of the planning of agrcultural production in China. Now various actions have to be taken to stabilize the area sown to grain, to encourage increases in yields per unit of area, and to curb the tendency toward a certain blind development of economic crops. Increase in grain output depends primarily on the tapping of potential from medium and low yield areas, yet consolidation of old commodity grain bases now continues to be of extremely important significance. (3) Readjustment of economic policies. Balanced economic benefits are a major condition for implementation of state plans. Only by solving the problem of overly low efficiency in grain production will it be possible to reduce their growing area effectively. When drawing up state plans, it will be necessary additionally to give consideration to the application of levers such as prices, taxes, loans and public finance, as well as distributions of benefits within the collective economy to readjust economic benefits in all fields concerned (including production, processing, allocation, and marketing of farm products.) Procurement prices paid for farm products require stabilization now; consequently, study is urgently required on improvements in state procurement (or purchase) price base figures, increased prices for excess procurement, and bonus policies, as well as ways of supplying materials used in agriculture in order to readjust earnings between different varieties of grain crops and economic crops and between one economic crop and another, and among farming, forestry, animal husbandry, and fishing to promote proportional, coordinated development of each kind of production. Last year after Zhejiang Province announced limitations on additional prices paid for excess procurement, the structure of the winter-sown area underwent very great change. (4) Commune and brigade enterprises should be made a part of state plans. When summarizing the relationship between commune and brigade enterprises and agriculture, Jiangsu Province pointed out that even though commune and brigade enterprises have an extremely important role in supporting agriculture and in advancing development of the rural economy, a tendency really exists among them to assault state plans. Consequently, it is necessary to make strengthening of planning and management of commune and brigade enterprises a topic for study in the planned agricultural economy. Nanhai County in Guangdong Province used various means such as making contracting an indirect part of state plans, linkage to state-owned plants, and processing of materials brought in from elsewhere to set commune and brigade enterprises on the track of state plans. This achieved a certain amount of success. (5) Perfection of plan management structure. In formulating agricultural production, supply, and marketing plans today, the situation of dispersal of forces with no mutual dovetailing cries out for change; for central government category 1, strengthening of the function of the the overall balance structure is required. County planning departments are the foundation for bringing about all around balance, and they are also the bond that ties together state plans and producers. Today, however, they are extremely weak and require strengthening with all possible speed. Grassroots political power--the key to carrying out state plans lies in how well communes and brigades are organized. In areas practicing primarily the form of "double contracting" [contracting fixed output quotas and responsibility for specific work tasks to households], perfection of grassroots organization and strengthening of their economic function is particularly important. The nature of command and guidance for quota management has no practical significance below the county level. Shandong comrades believe that "production is the foundation, and procurement is the key; contracts are the guarantee, and prices are the nucleus." (6) Strengthening and bringing into play the main channels in the rural commodity flow area. The position of state-owned business as major channels must be affirmed, and full use made of their leading role among many channels of many kinds. Sichuan created four models in pilot projects for reform of its supply and marketing cooperative system as follows: (1) Merger of commune businesses with supply and marketing cooperatives; (2) transfer to communes of all supply and marketing cooperatives; (3) Practice by supply and marketing coopertives and related units of decentralized joint ventures; (4) Joint ventures by grassroots cooperatives and production teams. Comrades who made the survey believe the third model to be a rather good one. At pilot projects for reform of grassroots cooperative organization in Jiangsu County in Jiangsu Province, full accounting for shares, enlargement of shares, honoring of bonus distributions, establishment of supervisory councils, changes in operating styles and methods and genuine solution to problems of the masses in "difficulties in buying," and "difficulties in selling" produced very great benefits in revival of the "three natures."

At the discussion, everybody believed that this kind of combined survey was a useful effort whose benefits were as follows: (1) Cooperation vertically and laterally for a concerted attack on problems. Inasmuch as the topics covered by the survey were very large and touched on a very broad area, it could not have been easily completed within a short period of time by the efforts of several people in a single unit. In future, combinations of comrades in pertinent provincial and municipal departments to carry out surveys of fairly great policy importance is required. Research organizations can proceed from this foundation to undertake systematic academic study. (2) Individual characteristics of key points and whole areas. Units participating in the survey used their commonly drafted outline in combination with the characteristics of local areas to select one or two key counties and key problems (or sometimes key products) on which to conduct a survey that probed fairly deeply, and surveyed and reported on the characteristics of each county. This was followed by the rendering of an overall analysis of definite scope to locate things in the nature of laws. Comrades participating in the survey believe that in future continuous observation and study of such points should be maintained so that understandings will be closer to realities. (3) In a situation of heavy responsibility, few personnel, and short time, results can be obtained fairly rapidly and fairly well.

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'BEIJING REVIEW' ON GRAIN PRODUCTION, IMPORTS

HK151016 Beijing BEIJING REVIEW in English No 25, 11 Oct 82 pp 3-4

[Article by economic editor Jin Qi: "Grain and Cash Crops"]

[Text] Are Chinese peasants today so enthusiastic about growing high income cash crops that the country will need to prolong its dependence on grain imports?

Over the last few years China has adopted a series of flexible rural economic policies, such as expanding the peasants' decision-making power in farm production. It also has corrected a previous one-sided emphasis on grain production. As a result, farm production has greatly improved, with the output of cash crops rising measurably.

The total agricultural output value in 1981 was 17.9 percent more than in 1978 (calculated according to 1970 constant prices). Of this, the output of grain rose by 6.7 percent and that of cotton, oil-bearing crops and beetroot increased by 37, 95.6 and 135.4 percent, respectively.

The rapid increases in the output of cash crops can be partially attributed to the liberating effects of current policies on these crops. However, irrational pricing is more significant. Left behind by history, arbitrary pricing practices enable people to profit more from cash crops than from grain. Consequently, the acreage sown to grain in 1981 was reduced by 4.3 percent as compared with that in 1979. This tendency has aroused the concern of the government.

In an effort to stabilize the grain acreage and encourage continued increases in per-unit grain output, the state has strengthened planning and administrative intervention. In addition, other economic measures are being considered to bridge the profit gap between the production of marketable grain and the production of cash crops. To name a few: The amount of grain purchased by the state in grain-producing areas at fixed parity (thus, lower prices) will not be increased, and the amount of grain in excess of the prescribed amount purchased at fixed parity will be purchased by the state at preferential negotiated prices; grain-growers will be accorded preferential treatment in the supply of scarce industrial goods needed in production and daily life, such as chemical fertilizers, certain farm tools and machines and bicycles;

and the profit for cash crops that encroach on the land sown to grain will be appropriately reduced.

It is true that China has increased grain imports in the last few years. But this stems from a too rapid growth in grain consumption rather than a decrease in domestic supplies (as a matter of fact, they are growing). Grain sales in 1981 were 27 percent higher than in 1979. The population growth accounts for some of the increased grain consumption. But the main reason is China's ongoing effort to develop the foodstuff and fodder industries. China imports only a small amount of grain, some of which is used to increase the varieties. Deducting the exports from the imports, the net grain imported in 1981 (the year with the largest amount of imported grain) was only 4 percent of the nation's total grain output.

A populous country like ours cannot depend on imported grain. Our consistent policy has been to rely principally on domestic grain production, and to use the international market only to adjust our deficiencies and surpluses. This policy, I think, will never be changed.

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PROPOSAL ON DEVELOPMENT OF RURAL FOOD INDUSTRIES AIRED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese
No 8, 1982, pp 47-50

[Article by Chen Yueru [7115 2588 1172], Agricultural Economics Institute, Chinese Academy of Agricultural Sciences: "Brief Discussion of Development of Commune and Brigade Food Industries"]

[Text] Food industries are processing industries using agricultural by-products as raw materials. Development of food industries requires, first of all, agricultural production to provide them with raw materials. We must focus on all around use of all the resources of China's soil to provide ample raw materials for the food industry so that the food industry can develop. Only in this way will it be possible gradually to change the diet and improve the nutrient value of food. Development of the food industry can also energize development of rural economic diversification and commune member household sideline occupations to bring a fairly great change in China's longstanding unitary production structure in which grain has been paramount, establish a good agricultural situation, and bring about a benevolent cycle, thereby further advancing the all-around development of agricultural production. Therefore, in the strategic task of changing the structure of China's agriculture and the structure of food products, development of the food industry holds extremely important significance. In addition, development of the food industry means development of consumer goods production, which not only enlivens markets and enriches the lives of the people for satisfaction of people's requirements for diverse kinds of foods following increase in the people's purchasing power, but also makes the structure of the national economy become more equitable.

Significance of development of the food industry is extremely great, yet we have long neglected development of the food industry. In 1979, gross output value of the country's food industry (including commune and brigade food industries) amounted to only 10.3 percent of the gross output value of the country's industry and 7.6 percent of the gross output value of the country's industrial and agricultural output value. This included an output value from commune and brigade food industries of only 100 million yuan, which amounted to only 4 percent of the gross output value of the country's food industry. An extremely large portion of this was first echelon processing of products, and 80 percent of it was production for the use of communes and brigades themselves. Between 1978 and 1980, food industry as a proportion of commune and brigade enterprises was 5.6 and 7 percent respectively. Employees numbered only 2.5 percent of the total number of employees in commune and brigade enterprises. Among export products, 76 percent were agricultural product raw materials, with processed foods amounting to only 24 percent. Output value of processed agricultural products for economically developed countries is usually double the output value of agriculture, but in China the output value of processed agricultural goods is, conversely, lower than the output value of agriculture. China's food industry is backward and not commensurate with the needs of daily life for a 1 billion population and development of agricultural economic diversification. For example, food supply for urban industries is insufficient, varieties are few, and quality is poor; food supplies for rural industries are even more monotonous. Particularly in out-of-the-way mountain regions and in border regions where there is virtual no food supply for industries, and where the soy sauce, vinegar, and such condiments needed by the people in their daily lives require a round trip of several tens of li to the county seat. Because of the lack of development of the food industry, on the one hand inadequate supply of food to industries has occured while, on the other hand, some raw materials cannot be sold. For example, in many places it is difficult to sell hogs or rabbits; in mountain regions, large quantities of indigenous products or resources that grow wild rot where they are; in areas where their production is concentrated, large quantities of potatoes mold and rot. Every year 20 percent of fresh fruit rots, and during 1980 20,000 tons of citrus rotted in Sichuan. During the past 2 years output of cottonseed and rapeseed has increased tremendously, but because of a shortage of processing capacity they could not be processed promptly and their oil output rate declined. In pastoral areas, cows milk and goats milk is fed to hogs. Annually between 300,000 and 400,000 tons, or 10 percent of total output of aquatic products spoil. Fish in hand does not reach the mouth. Producers of raw materials incur losses because of this, which dampens peasant enthusiasm and has led in the past to ups and downs in the production of agricultural products, and slow development of economic diversification.

From this may be seen that agricultural economic diversification and the food industry are both mutually restricting and mutually promoting, objectively requiring a linking of the farming, breeding, and processing industries. Moreover, development of commune and brigade food industries is an important way in which to promote the linking of the farming, breeding, and processing industries. Operation of processing industries in places that produce raw materials and hastening construction of raw materials bases to form a continuous process of farming, breeding, and processing is consistent with an orientation of comprehensive farming, industrial, and commercial operations.

The role of commune and brigade food industries in promoting agricultural production is also manifested in the following several main ways:

1. Commune and brigade food industries can more effectively use the wastes left over at the time of production for livestock feed or for direct use in fertilizing the soil, thereby returning natural materials to nature. For example, the Xinqiao Commune Food Plant in Songjiang County, Shanghai annually

processes more than 18,200 tons of frozen chicken for export and is able to supply 15 tons of chicken manure monthly for direct use in fertilizing the soil. It can provide a total of 1,370 tons of chicken intestines containing manure over a 10 year period for supply to every hog raising farm in the commune to feed their hogs, the hog manure being used as fertilizer for development of agricultural production. Baoshan Commune in Panshi County, Jilin Province uses bald hills and barren slopes to grow fruit trees, which provide raw materials for the commune canning plant, leftover skins, residues, and slop being fed to livestock, the livestock manure providing fertilizer to the fruit trees, in turn. This use of farming to provide raw materials for the processing industry, and the processing industry to give impetus to the breeding industry, and the breeding industry promoting, in turn, the farming industry in a benevolent cycle is something that food processing industries far removed from raw material production areas cannot do. When farm products are assembled in cities for processing, they may cause urban pollution and put and end to the balanced mutual exchange of nutrients between the natural world and mankind. As Marx noted, "The integral part of the soil consumed by man in the form of clothing and food cannot be returned to the soil, thereby damaging the perpetual natural condition of the soil's enduring fertility." ("Complete Works of Marx and Engels" Vol 23 p 552).

2. Commune and brigade food industries can open production avenues for agriculture and take care of surplus workforces. Today there is a general 30 percent surplus of workforces in China's rural villages, "If these people who have been squeezed out of agriculture are not to remain out of work or be forced to congregate in cities, it is necessary that they engage in industrial labor in rural villages." ("Complete Works of Marx and Engels," Vol 19, p 369). The food industry is a labor intensive industry that can provide for a substantially greater workforce for the same amount of capital. Food industries energize economic diversification and development of commune member household sideline occupations, promote progress in production in depth and breadth, and provide an outlet for surplus workforces. Were rural food industries properly concentrated in rural market towns where communes exist, they would give impetus to small city and town construction, and still greater numbers of the surplus workforce could be taken care of. Rough calculations show that if every one of the rural market towns where more than 50,000 communes in the country are currently located were able to absorb an average of 2,000 people, it would be possible to provide employment opportunities for more than 100 million surplus rural workforces, and they would not be forced to congregate in cities.

It is characteristic of agricultural production that the process of natural reproduction and the process of economic reproduction are intertwined. The production period is much greater than the labor period, and there are separate slack and busy seasons in agriculture; however, inasmuch as the busy seasons and the slack seasons differ in industrial production and agricultural production, the same workforces may be switched back and forth into agricultural and industrial production. Workforces can be transferred to economic diversification tasks of a seasonal nature so that the workforce is fully and equitably used, producing more products for society.

3. Commune and brigade food industries can make full use of resources. Commune and brigade food industry local procurement of materials and local processing favors use of dispersed odd bits and pieces of resources, and other resources, discarded resources, and wild growing resources that large industries do not use can be comprehensively used, and new uses for foodstuff raw materials can be found. Take tuber crops such as potatoes, yams, and cassava, for example. In addition to processing into starch and noodles, they may be processed into citric acid, alcohol, lactic acid, glucose syrup, and amino acids. If tuber starches and cornstarch are further processed, maltose, glucose, and fructose can be produced. Fructose can be produced at lower cost than cane sugar; it is sweeter; and it has wider uses. Through processing, the usefulness of tuber raw materials is greatly heightened. Yet another example is the cake residues that were formerly used directly for livestock feed or fertilizer, from which concentrated protein and separated [3863 2649] proteins may be extracted through deep processing. From cottonseed cake cotton phenol [2758 1568] (a protein) can be extracted. Cottonseed husks, corn cobs, wood shavings, and bagasse, which had been used as fuel or processed as waste materials, have now begun to be used in rural villages to produce edible fungus. Areas that produce large dates use rotten dates for processing into date essence [2764 4737] a perfume indispensable to the manufacture of cigarettes. Examples in the realm of food industry use of plentiful wild growing resources include use by Xiangtun Commune in Dexing County, Jiangxi Province of vitex cannibfolia which grows all over the local mountain region, and which can be processed to produce vitex cannibfolia oil capsules (for the treatment of chronic bronchitis), which is marketed widely in all of the countries of Southeast Asia. Henan, Hubei, and Sichuan provinces used actinidia berries for processing into preserved fruit, liqueur, and fruit juice to take advantage of local natural resources, to expand use of raw materials, and to promote development of resources.

4. Development of commune and brigade food industries is a good way in which to promote the specialization of agriculture and to build raw materials bases. Following institution of production responsibility systems in agriculture, specialized teams, specialized households, and specialized workers made their appearance. Accompanying development of economic diversification has been the development of food processing industries funded and operated by commune and brigade collectives and by commune members. Storage, cold storage, packaging, and transportation industries associated with the food industry, as well as departments that generate raw materials, provide the means of production, and supply services showed corresponding development. These functions, which had formerly been a part of agriculture, gradually separated from agriculture to become specialized operations with the result that a steady decline occured in that part of farm products and raw materials going directly into consumption, and products of a commodity nature steadily increased, thereby strengthening the reliability of each individual link in the production of end products. Division of labor and division of industries gradually developed, and this inevitably required coordination. Coordination created, in turn, conditions for increased specialization. A look at the freezing plant at Chengguan Commune in Wuqing County, Tianjin shows this plant to have an annual processing capacity of 900 tons, which has led to construction of a raw materials base, as a result, the local chicken raising industry

developed from three production brigades and four chicken farms providing 96,000 chickens in 1971 to 112 production brigades and 145 chicken farms plus more than 1,700 commune member households raising a total of 1,138,000 chickens in 1980. The chicken raising industry sparked the marten raising industry and the rabbit raising industry with the result that the breeding industry throughout the county gradually became regionalized and specialized. Specialization promoted development of commodity agricultural products and commodity exchanges and requiring striking growth in the close linking of transportation and marketing departments. This resulted, in turn, in development toward the direction of a high level of link up with the integration of agriculture, industry, and business for farming, breeding, processing, and marketing. Restructuring of the organization and management of agricultural production gave further impetus to development of the economic diversification of agriculture.

5. Commune and brigade food industries can spark development of household sideline occupations. In areas in which production or work tasks have been contracted to individual households, raw materials for the food industry come primarily from commune member households, and some agricultural production tasks also lend themselves to commune member households. Commune member households use their spare time or supplementary labor forces, and use space in front of or behind their homes, odd bits of wasteland, depressions, or odds and ends of water surfaces to produce raw materials for the food industry. Moreover, the food industry, in turn, opens marketing avenues for commune member household sideline occupation products and removes commune member concern about not being able to sell their products. Food industries also provide for commune member household sideline occupations stud livestock and poultry and mushroom spores, promote scientific farming, scientific raising of animals, and knowledge of scientific management, and provide necessary economic support. For example, formerly commune members in Bocheng Commune, Gaomi County, in Shandong Province had to go through a procurement point set up by the foreign trade sector in order to sell rabbits. From the procurement point, the rabbits went to a grassroots supply and marketing cooperative, and the supply and marketing cooperative transferred them to the County Foreign Trade Bureau, which transferred them to Qingdao for processing. There were numerous procurement unit circulation links, and they attempted to run down quality in order to hold down prices paid and pass on to peasants the increased expenses and losses, with the result that the rabbit raising industry could not develop. Now the commune is running the freezing plants, and in addition to signing contracts with commune member households stipulating the quantity to be sold annually and the bonus system, they have withdrawn 30,000 yuan from plant profits to help hardship households develop household sideline occupations and to provide more than 20,000 tons of fish meal feed to them; they have also sold 60.000 chicks on credit, loaned commune members 3,500 female rabbits for breeding, have printed and distributed books on the raising of livestock and poultry and prevention and control of epidemic diseases, and have sent technical personnel a lecture circuit and to give on-site guidance. They have thus achieved a combination of plant breeding and household raising or household breeding and household raising livestock and poultry, and households raising the three large flocks

(chickens, ducks, and rabbits) number 50 percent of the total. Most households have raised eating (or laying) chickens and rabbits, with the number of specialized households developing to 282 and the number of specialized workers climbing to 4,400. Seven commune households have realized annual net profits of more than 3,000 yuan from the breeding industry. Last year 166,000 head of livestock and poultry of various kinds were raised by commune member households, a 142 percent increase over 1980.

6. Commune and brigade food industries have dovetailed farming, breeding, and processing to raise labor productivity rates, to reduce losses and waste in the circulation process, to reduce the "price scissors," and thereby increase both collective and commune member income. Local processing has brought about mutual cooperation among farming, the breeding industry, and the processing industry for an increase in productivity. Inasmuch as certain agricultural raw materials are large in volume, light in weight, and very full of moisture making them difficult to haul, prone to spoilage, and difficult to store, commune and brigade processing industries immediately instituted processing at the production site so that "commodities rapidly went from one production stage to another production stage or, in other words, the intervening time was shortened for a reduction in the waiting time of intervals between one production stage and another, that is to say, a shortening of the transfer from one production stage to another production stage ("Complete Works of Marx and Engels," Vol 26, p 314) for a reduction in losses and waste, a saving in transportation, and expenses for circulation links. Additional, development of commune and brigade food industries can leave within the farming industry some of the net income created by agriculture that is transferred to the industrial and business sector as a result of the existence of the "price scissors," and increase accumulations of agricultural capital and commune member income.

A look at the role of the aforementioned commune and brigade food industries in promoting agricultural production shows that commune and brigade food industries should be made an important integral part of the acceleration of food industry development nationally. The advantages, the raw materials, and the markets for development of the food industry are in rural villages. Though technical facilities and size of state-owned food industries are rather superior, the advantages to industry conceal the harm done to agriculture. In all the countries of the world with a developed food industry, the focus of development is on rural villages. While assuring supplies of raw materials to large and medium size food industries, we must act step by step to gradually have commune and brigade enterprises process agricultural byproducts that lend themselves to rural processing. Development of the food industry requires that the state, collectives, and individuals go forward together, and most important should be development of the collective economy. There should be both large modern industries, and small workshops that serve commune member lives in a combination of the large, the medium, and the small. Though commune and brigade food industries are rather small and scattered today; nevertheless, in addition to the many advantages these small enterprises possess as discussed in the foregoing, they also hold advantages in adaptation of general methods to local situation, in doing things simply and thriftily, in being flexible and varied, in not requiring state investment, and in not consuming commodity grain.

In order to correctly handle the sources of raw materials for development of food industries by the country, the collective, and individuals, stipulated base figure procurement methods must be instituted for food industry raw materials. All jurisdictions should conscientiously institute the State Council regulations contained in "In Instituting Unified Procurement and Assigned Procurement of Agricultural Byproducts, the State Should Stipulate Base Allotment Figures for Provinces, Municipalities, and Autonomous Regions," and institute them at the grassroots. The setting of base procurement figures is tantamount to setting quotas, and it both assures state-owned processing plant needs for raw materials and provides self-determination to communes and brigades in processing, production, distribution, and marketing to arouse the enthusiasm of peasants for development of production. Looked at in terms of the results in the macro-economy, by doing things this way not only can there be no diminution of state control over things, but rather great increase. Right now 10 provinces have set base procurement figures in varying degrees for agricultural products, and they all reflect this policy's promotion of the development of agricultural production.

Development of the food industry requires giving impetus to economic association, the association solving problems in insufficiency of funds, skills, and raw materials so that individual advantages can be brought into play. Various kinds of joint partnership ventures between industry and farming, farming and business, communes and brigades, brigades and brigades, and among commune members can be used. Deserving of particular attention is joint ventures by production teams, which link in a single body for all-around development production team economic diversification, commune member household sideline occupations, and commune and brigade enterprises, making it possible as well for the peasants to obtain greater material benefits directly from commune and brigade enterprises. Linking of commune and brigade enterprises with state-owned food plants, with production, supply, and marketing being made a part of plan can also carry skills into the countryside and products into cities, and link primary processing in rural villages with secondary processing in cities.

Food industries cut across light industry, grain, foreign trade, business and supply and marketing sectors, so only by proceeding from the situation as a whole, through division of labor and cooperation, and close coordination can the strengths of each be brought into play. Development plans should be formulated at the county level, taking into account both agricultural zoning and equitable distribution of operations. Key products should be developed on the basis of local resources, and a good job should be done of market forecasting and scientific and technical situation reporting to prevent blind action. Commune and brigade enterprises should convert to food processing industries those enterprises that are to be converted in the process of readjustment so as to be able to use existing plant buildings and facilities, and save on investment. Departments concerned and state-owned food plants should arrange for and give support and assistance in equipment, skills, and supply of supplemental materials for development of commune and brigade food industries. In the course of development, commune and brigade food industries should do a good job of enterprise reorganization, and improve administration and management so that they are able to make a contribution to development of economic diversification and commune member household sideline occupations.

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PROBLEMS, PROSPECTS IN FEEDING LIVESTOCK EXPLORED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 1982, pp 58-61.

[Article by Animal Husbandry Bureau, Ministry of Agriculture, Animal Husbandry and Fishery: "Some Circumstances Pertaining to Livestock Feed Resources and Development of the Livestock Feed Industry"]

[Text] Livestock feed is the material foundation for development of a livestock industry. Both domestic and foreign experiences have shown that the level of livestock feed production determines, to a very large extent, the scale and speed of development of a livestock industry. Accompanying develop of China's "four modernization" construction and gradual improvement in the people's livelihood has been a demand for increased production of meat, eggs, milk, and such livestock products, and this has required that livestock feed work be placed in the position it deserves in the national economy. A look at the current situation in China shows that many places have not accorded livestock feed work sufficiently serious attention, and they have not given attention to the production of compound livestock feeds that have all nutrients in abundance to meet the needs of livestock and poultry growth and development. In national terms, the basic state of affairs in livestock industry production as a whole is as follows: long periods of growth, slow weight gain, slight egg production, low milk yields, poor quality of livestock products, high raising costs, and low livestock feed efficiency. In advanced livestock industry countries, the rate of removal from inventory for hogs is about 150 percent, but in China it has fluctuated around 60 percent for many years. In countries gaving a developed livestock industry, for each jin of weight gain in hogs, about 3.5 jin of full rate compound feed (containing 60 to 70 percent grain) is consumed, but in China half again as much grain is used, and the lean pork rate is low. As of the end of 1979, China had 319.7 million hogs in inventory and produced 20.03 billion jin of pork (10,015,000 tons) of pork, while the United States had 60.1 million head in inventory and produced 7 million tons. Average amount of pork output per head in inventory at year's end was 31 kilograms for China and 116 kilograms for the United States. Beijing's factorized chicken raising sets a high standard for China, but the amount of feed consumed to produce 1 jin of eggs is 12 percent higher than in countries with a developed livestock industry (2.6:1 for Beijing and 2.5:1 abroad).

1. Situation in Development and Use of Livestock Feed Resources:

(1) Feed grain use is irrational, feeding being done with whatever happens to be available. China uses about 10 percent of its total grain output as feed grain for development of the livestock industry. In 1980, feed grain amounted to 70.6 billion jin of which feed grain withheld by production teams amounted to 54.8 billion jin or 77.6 percent, and state award sales of feed grain for sales of hogs to the state amounted to 11.500 billion jin or 16.3 percent. Feed grain used in rural villages for the raising of hogs accounted for 94 percent of the total, and if 14 million jin of grain husks (or 30 percent of the national output) is added to this, total processed compound feed amounted to 100 billion jin. Converted at a fairly low feed to pork ratio (4:1), 25 billion jin of pork was derived, which was 2.5 billion jin more than the pork output for the year. Survey done in Qingfu County in Shanghai showed that after use of mixed feed was promoted, the level of feed consumption gradually declined during the past 3 years. A comparison of 1980 with 1978 showed that in this county the amount of feed used per fattened hog fell from 550 jin to 475 jin, a decline of 13.6 percent. Calculating on the basis of the 340,000 head of fattened hogs marketed in 1980, that amounted to a saving of 25.5 million jin of feed, a saving for the province of more than 3 million yuan in feed expenses. By raising the return on feed by 10 to 15 percent, the fattening period can be shortened by 2 to 3 months. Building of compound feed processing plants or mixed feed processing plants is an effective way of using limited feed grain resources to change the feeding of a single kind of feed and increase output of livestock products. Yet, in 1980 China's annual output of mixed feed (a considerable portion of which was simply mixed up) was only 820,000 tons, or about 2 percent of the country's total output of feed, somewhat more than 30,000 tons of which was fairly full rate compound feed.

(2) Use of paddy rice to raise hogs in most areas in the southern part of the country is very senseless. A comparison of nutritional value shows the crude protein content of paddy rice to be from 20 to 35 percent lower than for corn and wheat, and digestibility lower by between 10 and 20 percent. Departments concerned in Shanghai have made an analysis that showed that during 1965, 20 percent of the feed withheld in the city was corn and 11.4 percent was early rice; the remainder was wheat and naked barley. On average, every 100 jin of livestock feed contains 57 feed units (1 feed unit equals the nutritional value of 600 grams of digestible starch). By 1975, more than 75 percent of the feed was paddy rice, and the amount of wheat and naked barley had dropped to 25 percent. Virtually no corn was fed (only 0.7 percent). On average, each 100 jin of feed contained 46.2 feed units. For the same 100 jin of feed withheld, there was a difference of 11 feed units or a decrease by almost one-fifth in the nutritional value. Incomplete statistics show that in Hubei Province, more than 4 billion jin of paddy rice is used in livestock feed annually; in Guangdong Province it is almost 2 billion jin. Comparison of quantities used as feed shows that, on average, each mu of dryland paddy has 97 fewer feed units than corn (nutritional value calculated on the basis of average output for the 10 year period 1964-1973 by departments concerned in Shanghai).

(3) Use of cake residues for livestock feed has yet to be generally promoted. Of all cake residues, those showing most promise for use in livestock feed are cottonseed cake and rapeseed cake. In 1980, China produced 6 billion jin of cottonseed cake, and 3 billion jin of rapeseed cake. These two kinds of cake residues contain between 30 and 40 percent crude protein, and the digestible energy in them is close to 3,000 kilocalories per kilogram. They are a major source for protein livestock feeds. Inasmuch as it takes quite a while for these cake residues to be converted into manure, since their conflicting use in livestock feed has not been well resolved, since the masses do not yet fully understand techniques for their detoxification, and since there are as yet no genuinely effective methods whereby chemical fertilizer is offered in exchange for cake residues, most cottonseed cake and an overwhelming portion of rapeseed cake is used directly as fertilizer. Statistics from the former Ministry of Grain show that in 1980 cake residues resulting from processing of oil-bearing crops by grain departments nationwide amounted to more than 5 billion jin. This was in Beijing, Hebei, Shanxi, Liaoning, Heilongjiang, Jilin, Shanghai, Jiangsu, Shandong, Sichuan, and Henan, but only 400 million jin was retained for use as livestock feed. If it were possible within a short period of time to use half (4.5 billion jin) of the cottonseed cake and rapeseed cake produced in the country for livestock feed, and add it to daily feed at a 15 to 20 percent rate, about 22.5 to 30 billion jin of compound livestock feed could be made. Figuring 500 jin of compound feed per fattened hog, the protein feed problem could be solved for between 43 and 60 million head or between 30 and 40 percent of the fattened hogs removed from inventory throughout the country.

(4) Relatively poor attention given to the processing, movement, storage, and use of crop stalks and stems. In China only about 30 percent of the farm crops and the stalks and stems produced per mu of land are used for food (including those eaten by livestock or poultry and converted into meat, eggs, and milk.) More than half are used for fertilizer or fuel. More than 730 billion jin of major farm crop stalks and stems suitable for use as livestock fodder are produced in the country (of these, peanut vines contain about 10 percent crude protein, and the stalks of pulses contain 7 percent). British researchers believe that in long range terms, stalks and stems should be regarded as major livestock fodder. Denmark is now studying satisfactory methods for promoting the processing of stalks and stems. To proceed from China's realities, how to deal with cyclical transformation relationship among livestock feed, fuel, and fertilizer requires study, design, and production by the machine manufacturing sector of equipment suited to the processing, mixing, and storage of various kinds of stalks and stems, methane research departments, animal husbandry research units, and production departments jointly coordinating for a good job of rational use of crop stalks and stems.

(5) North China's pastoral areas contain 3.3 billion mu of useable grasslands on which there are now more than 94 million cattle, horses, and sheep. This converts to more than 188 million sheep units, or 1 sheep for every 17 mu of grassland. But administration and management, conservation and improvement, and rational use have not been done well, resulting in misuse of pasturelands and overgrazing; the grasslands have been seriously damaged and degenerated.

Today a normal year's harvest amounts to about 300 billion jin of dry green hay, a 70 percent utilization rate for which amounts to only 210 billion jin or an average 1,100 jin per sheep, which is only 3 jin of hay per day (the normal requirement is 5 jin), a 40 percent shortage. When disasters strike, large number of livestock are likely to die. Were it possible to strengthen the building of the grasslands in a planned way and increase the current hay output to 400 jin per mu for a hay output totaling somewhat more than 1.3 trillion jin, 1 sheep per 7 mu of grassland could be raised, and the number of livestock could be more than doubled. Were it possible to increase hay output to the levels attained in foreign countries, 1 sheep per 2 to 3 mu could be raised and the potential would be much greater. Problems in building and using grassy mountains and grassy slopes in farming areas are also very numerous, and a tremendous potential for development exists.

(6) Green manures are plants belonging to the pulse family whose protein content is fairly abundant. In dry Chinese milk vetch, for example, the crude protein content is a general 20 to 30 percent. Computations done by agricultural departments in Jiangsu Province show 10 million mu of winter green manure in the province for yields averaging 4,000 jin per mu or a total of 40 billion jin, the digestible energy from which is the equivalent of 5 billion jin of barley and the crude content the equivalent of 3.8 billion jin of bean cake. In 1980 the area of the country sown to green manure was 110 million mu for an extrapolated output totaling 440 billion jin, having a digestible energy equal to that of 55 billion jin of barley, and crude protein equal to that of 41.8 billion jin of bean cake. Were half the figures to be used, the digestible energy would be equivalent to 27 billion jin of barley, and the crude protein would be equivalent to that of 20 billion jin of bean cake. Furthermore, the potential for increased green manure crop yields is very great. With just a little improvement in field care, yields could be increased manifold. This is an important source of plant protein livestock feed. Right now most important is research to solve problems in storage methods (green manure crop green storage techniques are not up to standard). In long range terms, with gradual solution to energy problems and gradual improvements in techniques for using solar energy, corresponding breakthroughs on problems with rapid drying techniques and cost problems may be possible. This is a livestock feed resource peculiar to China, and prospects for its use are extremely hopeful.

(7) Purple flower alfalfa is often called by the beautiful name, "king of the pasture grasses." When dried, it has a crude protein content of between 18 and 28 percent. It has been grown in China for more than 2,000 years, and it has been closely related to the breeding of superior local breeds of domestic livestock. The common oxen of Qinchuan, for example, are closely linked to the feeding of alfalfa for a long time by the local peasants in Shaanxi Province. However, it has not been given the serious attention it deserves in recent years, with the result that varieties have become mongrelized and have degenerated, and the area sown has gradually diminished over the years. It is suggested that in major purple flower alfalfa growing areas (Shaanxi, Shanxi, Shandong, and Xinjiang) agriculture and animal husbandry research units should include among their topics for research the breeding, farming, and prevention and control of diseases and insect pests

of alfalfa. Machine mnaufacturing departments should research, design, and manufacture equipment suited to local areas for use in sowing, harvesting, and processing so as to solve problems in prompt harvesting and storage as well as in pulverized alfalfa hay and granular feeds.

(8) Tree leaves can provide livestock feed that is rich in vitamins and protein. Analysis of data has shown a protein content of more than 20 percent in purple plumed scholar tree leaves. The crude protein content of the leaves of peach, apple, apricot, and pear trees is more than 10 percent. Between 1976 and 1981, Beijing pulverized 22.91 million jin of locust tree leaves it collected. This was equivalent to having received 7 million jin of crude protein. The Jiangsu Provincial Poultry Research Institute mixed 5 percent pulverized leaves into the compound feed it fed laying hens for a saving in costs of 3 yuan per ton of feed. Results of a study of the province's livestock feed resources and their use carried out by Jilin Provincial Science Commission organizations showed that 10 billion jin of pulverized leaves could be made from the leaves of scrub woodlands nearby rural villages alone. If the leaves from coniferous trees and broadleaf trees cast aside in cut over forests were to be pulverized, 5 million jin could could be obtained from just 1 percent of the cut over forests.

(9) The blook, bones, entrials, feathers and hair of animals as well as silkworm chrysalises, and miscellaneous inedible fish etc. can be made into animal protein livestock feed. According to survey data from the Wuxi Amalgamated Meat Processing Plant, the waste products (blood, bones, feathers, and hair) from the 400,000 hogs and 1 million fowl slaughtered there annually amounts to about 3 million jin, which can produce 300,000 jin of blood powder, 67,000 jin of powdered hair and feathers, and 180,000 jin of bone meal. A survey done by departments concerned in Tianjin shows that except for the 2 million jin of the 4.5 million jin of fresh blood from hogs, cattle, and sheep produced in the city annually that is used for food and industrial purposes, the remainder flows away or is collected for use as fertilizer. If it were turned into 400,000 jin of powdered blood, that would be the equivalent of 320,000 jin of crude protein. China has more than 200 amalgamated meat plants with a butchering and processing capacity of more than 100,000 head per year. If each of these plants added a processing shop capable of producing 100 tons of animal feed yearly, the annual output would be more than 20,000 tons, enough to provide the protein feed needed to fatten 1.6 million hogs or feed 3.6 million laying hens.

(10) Use of industrial byproducts and leftover bits and pieces has yet to receive sufficiently serious attention in China. In the United States, the quantity of food industry-processed leftover bits and pieces amounted to 8.3 million tons in 1974. According to Japanese briefing materials, 12 to 14 percent crude protein can be obtained from the use of bagasse for livestock feed. Thailand also uses bagasse (or citrus fruit leftovers), which after being fermented with chicken dung is used as feed for beef cattle. China annually produces about 5 million tons of bagasse (the water content of which is 50 to 55 percent), so there is a sizeable source of supply. Leftover from the processing of fruits also contain a considerable amount of crude protein. Examples include pineapple skins (crude protein content of 8.2 percent),

leavings from making grape wine (content of 9.1 percent), and banana skins (10.6 percent protein content), all of which are close to the crude protein content of corn. Other things include medicinal residues (terramycin, tetracycline, and aueromycin residues) which have a crude protein content of from 25 to 35 percent, close to the protein content of cottonseed cake and rapeseed cake. For these resources that can be used for livestock feed, the joint cooperation of light industrial, food and pharmaceutical industrial departments concerned is required for the organization of their processing for use. As a result of development of fermentation techniques, conditions already exist within China for the use of molasses (a leaving in sugar refineries) to produce lysine. In addition, technology for synthesis have also been mastered by relevant departments in China. Use of petrochemical industry intermediate products (such as acrolein, methyl mercaptan, and sodium cyanide) for the production of methionine synthetically is also possible.

2. Suggestions on Development of China's Livestock Feed Industry:

Inasmuch as China's financial and material resources are limited, the building of a complete livestock feed raw materials industry and livestock feed additives industry the way developed countries have done together with a matching livestock feed processing industry is clearly not realistic, and difficult to do. In view of China's characteristics, the building of a livestock feed industry must make full use of the initiative of each department of central and local governments and of communes and production brigades to begin building first small then large, and going from low grade to high grade to form an organic livestock feed industrial complex gradually. The building process should link large, medium, and small scale, with the medium and small predominating, with encouragement being given to communes and brigades to contribute funds themselves to build small scale livestock feed processing plants. In China 95 percent of the livestock feed grain is used in rural villages, and grain requirements can be met locally through the adaptation of general methods to local situations. The husks and cake residues required can be supplied locally. The overwhelming majority of raw materials come from communes and production brigades, and full use can also be made of green feed resources as rural livestock raising conditions permit. Requirements of these types of plants for trace ingredients to be added (vitamins, amino acids, and growth promoters) would be very low; consequently with a stable supply of raw materials, little change in varieties, and a simple and readily managed compounding of livestock feed, production capacity could be developed very rapidly. There could even be use made of mobile livestock feed processing equipment to take in raw materials for processing and providing service to brigades, villages, and households. In short, many forms could be used, with the adoption of no single model so that within a relatively short period of time the mixed feeds and compound feeds so urgently needed by collective livestock farms, specialized households, and key households could be produced and supplied in order to increase the livestock. Many places can also make use of all sorts of byproducts and leftovers by building blood powder plants, bone meal plants, feather and hair pulverization plants, fish meal plants, fruit residue livestock feed plants, hay pulverization plants, etc. to make full use of local labor and agricultural feed resources and animal and plant feed resources.

The state should concentrate some material and financial resources to operate key livestock feed plants that local resources cannot operate, the production of additives most importantly, to do a good job in serving locales. These industrial plants would be the mainstays of China's livestock feed industry, and would produce principally the pre-mixed livestock feeds containing additives (such as methionine and lysine) scale livestock feed plants to manufacture full rate compound livestock feeds, thereby spurring development of the entire livestock feed industry.

Production of pre-mixed livestock feeds containing additives would simplify the technicological processes in livestock feed plants, cut capital counstruction investment and transportation expenses, and would be an effective way in which to hasten building the livestock feed industry, to improve product quality, and to accelerate the transition to production of full rate compound livestock feed. In order to meet the needs of egg, milk, and meat production, large and medium size cities should similarly build livestock feed processing plants. On the basis of the experience of the Beijing Municipal Animal Husbandry Bureau's Stud Poultry Company, the building of one stud rooster farm plus one (or two) farms with 200,000 laying hens, plus one livestock feed plant would return 1.4 million yuan annually on investment, and would provide 4 million jin of chicken eggs. We should act on livestock industry production plans for large and medium size cities as integrated livestock, industial, and commerical enterprises develop to build group after group of livestock additive pre-mixed feed plants and livestock feed processing plants over a period of time. In building the plants, we should make sure that there is no duplication of construction. Production needs for which other departments have not made arrangements but which local areas urgently need should be taken care of by farming and livestock industry departments, with joint operation or some other method used to solve problems in cooperation and coordination involving raw materials, funds, and techniques.

(Abridged for publication in this magazine)

9432
CSO: 4007/600

DEVELOPMENT OF NEW SWEET POTATO DETAILED

Beijing GUANGMING RIBAO in Chinese 22 Aug 82 p 2

[Article: "Shen Jialian [4141 1367 1670], Yuan Baozhong [5913 1405 1813], and Zhu Chongwen [3612 1504 2429] Cultivated a New Variety of Sweet Potato; 'Xu Shu 18' Has Become the Champion of Varieties Bred by Our Nation; It Has Been Popularized Over More Than 18 Million Mu Throughout the Nation and Has Received the State's First-Class Invention Award"]

[Text] Researchers Shen Jialian [4141 1367 1670], Yuan Baozhong [5913 1405 1813], and Zhu Chongwen [2612 1504 2429] of the Agricultural Sciences Institute in Xuzhou Prefecture [Jiangsu Province] have cultivated a new variety of sweet potato, the "xu shu 18." They have made a major contribution to the development of the production of sweet potatoes in our nation. Recently, they received the state's first-class award for inventions. "Xu shu 18" has been popularized outside the experimental nursery for less than 6 years. It has been rapidly popularized over more than 18 million mu in northern China and central China to become the champion of the varieties cultivated by our nation ourselves.

Shen Jialian, Yuan Baozhong, and Zhu Chongwen spent over 20 years developing this new variety. It was only 9 years ago that they selected one from the several thousand strains in the experimental nursery. They labeled it "73-2518," meaning that it was sown in 1973 and numbered 2,518 in order. The last two numbers refer to the Japanese variety "sheng li bai hao"--the goal to be surpassed by the several thousand strains in the nursery.

"Sheng li bai hao" was developed in Okinawa, Japan. Because of its high yield and its broad adaptability, it had occupied the leading position among our nation's sweet potato varieties for a long period. One day in 1957, a leading comrade of the Ministry of Agriculture told Shen Jialian: "The sweet potato variety is still Japanese; we must think of ways to develop our own good varieties! This is what Premier Zhou has said." Encouraged after hearing this, Shen Jialian answered decisively: "Good. I will not close my eyes when I die if I do not beat 'sheng li bai hao!'"

In 1962, he and Yuan Baozhong and Zhu Chongwen were transferred from the Chinese Agricultural Academy to the Agricultural Sciences Institute in Xuzhou Prefecture. The three cooperated closely. Up to the time of the Cultural Revolution they had developed over 10 superior varieties and served an important function in production.

The final push began in 1972. At the time, Shen Jialian and Yuan Baozhong had collected over 460 sources of domestic and foreign sweet potato varieties. They studied the characteristics of each variety closely, and then they selectively used the superior parents for sexual crossing. In the spring of that year, they arranged over 40 pairs and conducted experiments. By harvest season, "73-2518" was selected for its outstanding comprehensive achievements. The leaves on the stem grew early, it produced sweet potatoes early, the sweet potatoes enlarged quickly, the sweet potatoes grew in concentrated bunches, the growth during the latter period was strong, there were many sweet potatoes, and the comprehensive properties were far ahead of the other varieties. Shen Jialian and the others examined it strictly. The results were as follows: It surpassed the "sheng li bai hao" in almost all indices; the yield was 40 percent higher than that of "sheng li bai hao!" The hope of surpassing "sheng li bao hao" had finally been realized!

Miracles continued to come forth. In 1976, the Agricultural Sciences Institute in Tai'an Prefecture [Shandong] planted "73-2518" at test points. In that year, root rot disease was widespread in Shandong. This type of destructive disease causes the roots of the sweet potato to rot. "Sheng li bai hao" also wilted, but "73-2518" continued to grow prosperously and produced a lot of sweet potatoes. After many observations and much analysis, "73-2518" was selected as the best superior variety at present that is highly resistant to root rot disease. In the second year, the Agricultural Sciences Institute in Xuzhou Prefecture also arrived at the same experimental conclusion.

The high-yielding and highly resistant "73-2518" quickly became popular in northern China and central China. For convenience, its name was shortened, and in 1976 it was officially renamed "xu shu 18" instead of "73-2518." It signifies a new breakthrough in our nation's breeding of sweet potatoes.

As "xu shu 18" was born, the history of a variety cultivated by our nation ourselves occupying the leading position in sweet potato production began. The breeding work by Shen Jialian, Yuan Baozhong, and Zhu Chongwen again opened a new page. They told reporters that "xhu shu 18" still has some shortcomings, such as its weak resistance to black spot disease and its ordinary taste. They are determined to cultivate an even better variety than "xu shu 18."

9296
CSO: 4007/595

RURAL COMMUNE'S WORK SYSTEM ACHIEVEMENTS NOTED

HK020606 Beijing CHINA DAILY in English 2 Oct 82 National Day Supplement p 5

[Article by Hu Wenshun, secretary of the Shuangqiao People's Commune Communist Party Committee]

[Text] Shuangqiao people's commune in the Chaoyang District is one of Beijing's rural communes. It has 12,846 households who make up 47,719 people, and 52,000 mu (3,466 hectares) of farm land. There are 14,000 laborers and 7,000 factory and sideline workers. It is composed of five rural management areas with 62 production brigades.

The commune's chief concern is agriculture but at the same time, it is trying to develop in many fields. It has set up offices or stations in charge of industry and sideline activities, animals and fishery, hydropower, science and technology. There is also a hospital and a school for workers.

Great changes have taken place since the third plenary session of the Communist Party's Central Committee in December 1978. The establishment of various kinds of responsibility system was what the people wanted.

In only 3 years, major economic gains have set historic records. Agricultural and industrial gross income in 1981 amounted to 72.94 million yuan, an increase of 78 percent over the 40.94 million yuan in 1978. Average annual distribution per capita was 370 yuan, increased by 90.7 percent (194 yuan in 1978).

For 3 years running, Shuangqiao's farming, tree planting, animal raising, fishery and sideline production have all expanded, while crop yield has stabilized above 35 million jin (17.5 million kilograms).

The year 1981 was the sixth that its per mu yield reached over 1,000 jin (7,500 kilograms of grain from one hectare). The per unit area yield of 33,000 mu (2,200 hectares) of grain field was 1,067 jin (533.5 kilograms). Vegetable output has been 52 million jin (26 million kilograms) every year. Milk cows increased by 50 percent from 12,000 3 years ago to 18,000 now. Milk production was increased by 35.6 percent and pigs increased by 41.6 percent. The fish catch has doubled. Chicken farms, force-fed duck farms and orchards were expanded.

About 100 industry and sideline enterprises have been developed, run either by the commune, or by brigades. Gross income from these enterprises grew from 30 million yuan in 1978 to 50.13 million yuan, in 1981, an increase of 67 percent.

The commune has helped enrich Beijing's market by selling more produce to the state. Its commodity grain increased by 71.6 percent. It also provides the market every year with 45 million jin (22.5 million kilograms) of vegetables, 11.2 million jin (5.6 million kilograms) of fresh milk, 17,000 pigs, 230,000 jin (115,000 kilograms) of fresh fish, 500,000 jin (250,000 kilograms) of eggs, 60,000 ducks and 3.6 million jin (1.8 million kilograms) of fruits.

The increases are attributed to the responsibility system. The Wuliqiao brigade is an example. It contracted 54 mu of land (less than 4 hectares) to 28 commune members for specialized production. The total output was 62 percent higher than the previous year and the members' income quadrupled. The average value of production per mu (1/15th of a hectare) rose to 1,144 yuan. The average annual distribution to each laborer was 1,370 yuan with the highest more than 1,800 yuan.

In the last 2 years the living standard of the commune members has been improved. According to a survey, some 1,900 households have built 6,000 new houses. Fifty percent of the households have bought TV sets. Thirty percent of the brigades have set up pensions for elderly members over the age of 60, ensuring the livelihood of the commune members when they lose their ability to work.

Shuangqiao people's commune is looking forward to an even brighter future in 1983.

CSO: 4020/11

AGRICULTURAL BANK OF CHINA HOLDS MEETING

OW030940 Beijing XINHUA in English 0758 GMT 3 Oct 82

[Text] Shijiazhuang, 3 Oct (XINHUA)--China's rural savings deposits are more than treble those of 3 years ago and the amount of agricultural loans issued up to the end of August was 65.2 percent more than in the same period of 1978.

The figures were released at a recent meeting held by the Agricultural Bank of China and its branches on experience in improving the economic results of agricultural loans. According to the meeting, held in Shijiazhuang, capital of Hebei Province, rural savings deposits totalled 48,900 million yuan at the end of August. More than 66,900 million yuan of agricultural loans had been extended to rural collectives and individual undertakings by the end of August. About 98.9 percent of the loans due have been repaid.

Delegates to the conference attributed the good situation to rapid agricultural development and correct economic policies in rural areas.

The Agricultural Bank and the credit cooperatives have changed the practice of issuing the agricultural loans primarily for developing grain production and adopted the policy of encouraging the diversification of the rural economy. They have extended bank loans both to collective units and individual households to promote farming, forestry, stockraising, fishery, rural industries and other sidelines and helped peasants make fuller use of local resources.

The loans have helped stimulate commodity production and promoted rural processing industries and commodity circulation, it was reported at the meeting.

Some branches of the Agricultural Bank of China helped production brigades and teams solve problems that have resulted in expanded production.

Loans were extended to production units to popularize fine varieties of seeds and apply fertilizer in a scientific way.

According to the conference, a loan contract system has been instituted that is combined with purchase contracts.

As the autumn harvest season approaches, the rural credit cooperatives and branches of the Agricultural Bank of China are preparing for brisk financial activity.

CSO: 4020/11

DEFINITION OF CHINESE TERM ASCERTAINED

Beijing RENMIN RIBAO in Chinese 21 Sep 82 p 4

[In Column "Answer To the Readers": "How Should 'Fan Liang Fan' Be Understood?"]

[Text] Comrade Hu Yaobang proposed in his report to the 12th CPC National Party Congress that we strive by every means--consistent with an uninterrupted rise in economic benefit--to cause China's annual gross value of industrial and agricultural output to "fan liang fan." Several readers have requested an explanation of the numerical value of "fan liang fan." This newspaper has, therefore, made inquiries of the departments concerned, and their answers are as follows:

[Question] Comrade Hu Yaobang stated in his report that, by the end of the century, we should strive to "fan liang fan" China's annual gross value of industrial and agricultural output compared with 1980. Could you please explain how the phrase "fan liang fan" is to be understood?

[Answer] To strive by every means--with the proviso of an uninterrupted rise in economic benefit--to "fan liang fan" China's annual gross value of industrial and agricultural output by the end of this century is the grand objective proposed by the Central Committee of the party, after a comprehensive analysis of China's economics conditions and development trends. In line with China's practice [usage], "fan yi fan" means to double the base figure ["jishu de liang bei"], and "fan liang fan" means to quadruple the base figure ["jishu de si bei"]; therefore, using the 1980 gross value of industrial and agricultural output of 710 billion yuan as the base figure, and treating "fan liang fan" as "4 x," we obtain a product of about 2,800 billion yuan.

[Question] In his report, Comrade Hu Yaobang speaks of the 1980 gross value of industrial and agricultural output as being 710 billion yuan, whereas in the 1980 communique issued by the State Statistical Bureau the figure is given as 661.9 billion yuan. How come the two figures do not agree?

[Answer] The figure for 1980 gross value of industrial and agricultural output published in the Statistical Communique--661.9 billion yuan--was computed on the basis of 1970 constant prices. The figure of 710 billion yuan cited in Comrade Hu Yaobang's report was computed on the basis of 1980 constant prices.

Because it speaks of an objective over the next 20 years, it is a little closer to reality to use 1980 constant prices than to use 1970 constant prices. In China's plans and statistics, [the use of] "constant prices" means the use of prices of products in one given year to compute the fixed price of the gross value of output, and thereby to observe the rate of increase in each [succeeding] period.

CSO: 4007/19

BRIEFS

COTTON BOLLWORM VIRUS--Wuhan, 4 Oct (XINHUA)--Chinese biologists have designed and made the country's first set of equipment for cotton bollworm virus culture, marking a new step forward in controlling the pest, according to the Shashi Applied Automation Technology Institute in Hubei Province. The virus obtained from 5 to 10 cotton bollworms can mix enough insecticides for 1/15th of a hectare of cotton. The killing rate is more than 85 percent, research personnel say. Funded by the State Science and Technology Commission, the experiment in streamlining the virus production will soon enter into its intermediate stage. The equipment was designed by the Shashi Applied Automation Technology Institute and the Jingzhou Prefectural Institute of Microbiology. It consists of a mating and ovipositional box, a feed distributor, a worm breeding plate, a virus infection machine and a worm breeding plate washing machine. The streamlined method is between 10 and 20 times more efficient than the test tube breeding method. The feed mix costs are low and the mix does not affect the worm's physiological habit, research personnel say. China obtained the first nuclear polyhedrosis virus from dead cotton bollworms in 1974. [Text] [Beijing XINHUA in English 1213 GMT 5 Oct 82]

RAINY SEASON AFFORESTATION--Beijing, 28 Sep (XINHUA)--China has finished afforestation work for this year's rainy season. A total of some 6.8 million mu were afforested in Yunnan, Shandong, Henan, Beijing, Tianjin, Hebei, Shanxi, Nei Monggol, Shaanxi and Liaoning. Of this acreage, 1.03 million mu were afforested by using aircraft to dispense tree seeds. Aside from this, 115,000 mu of saplings were grown in Hebei, Shanxi, Beijing, Tianjin and Shandong during the rainy season. [OW141115 Beijing XINHUA Domestic Service in Chinese 0028 GMT 28 Sep 82]

CSO: 4007/13

BRIEFS

INTEGRATED ENTERPRISES--According to the authorities concerned, the nation's land reclamation and state farm departments have set up 270 integrated enterprises combining agriculture industry and commerce. Some 1,200 state farms, 58 percent of the total in the country, participate in the integrated enterprises. As a result, revenues have increased and the living standards of staff members have improved. [Beijing Domestic Service in Mandarin 1000 GMT 28 Sep 82]

CSO: 4007/13

BRIEFS

PIG PROCUREMENT--Nanning, 8 Oct (XINHUA)--As of 26 September, Duan Yao Autonomous County in Guangxi had procured 70,000 pigs, four times as many as that for the same period last year. [OW181329 Beijing XINHUA Domestic Service in Chinese 0050 GMT 8 Oct 82]

CSO: 4007/13

BRIEFS

AGRICULTURAL MACHINERY--From 1980 to August this year, 733 large and medium-size tractors, 1,992 manual tractors, 2,686 trailers, 721 plant protection machines, 2,621 motors used in agriculture, 3,068 diesel engines, 18,010 grinders and other agricultural machinery were sold in Guizhou Province. Their total value was 85.6 million yuan. [HK061401 Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 4 Oct 82]

LIVESTOCK SUPPLY--Over the past 3-1/2 years, Guizhou Province has supplied 150,000 head of livestock to 13 provinces and autonomous regions, including Shandong, Henan, Zhejiang, Shanxi, Jiangsu, Jiangxi, Yunnan, Hunan, Hubei, Guangdong and Guangxi. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 4 Oct 82]

CSO: 4007/13

EFFORTS BEING MADE TO INCREASE LEAN PORK PRODUCTION

Nanjing XINHUA RIBAO in Chinese 12 Aug 82 p 2

[Commentary: "Let There Be More Lean Pork"]

[Text] As the living standards of the people in the cities and villages improve, the masses are asking for more lean pork to eat. This has presented a new problem for the production of live hogs: more lean pork hogs must be raised.

The concerned departments in the province have already begun to pay attention to this request by the masses. The raising of more lean pork hogs is needed in society, and material conditions make it possible. This year, our province has realized bumper harvests in rape. The amount of protein feed for live hogs will increase greatly, and good conditions for raising more lean pork hogs will be provided. At the same time, we should also see to it that the economic gain from raising more lean pork hogs is high. Comrades of the provincial Animal Husbandry Bureau have calculated: Last year, the whole province procured 17 million head of pork hogs; calculating at 180 jin per head and a slaughtering percentage of 70 percent, the percentage of lean pork produced now is about 35 percent in general. Each hog produces only 44 jin of lean pork. If the percentage of lean pork can be increased by 10 percent (this can be done), then each head can produce 56 jin 7 liang of lean pork [figures as published].

In order to raise more lean pork hogs, we must study and readjust the relevant policies, and at present we must strengthen the selective breeding of lean pork hog varieties and select lean pork type hog varieties suitable to the feeding conditions in each locality in order to provide sources for popularizing the raising of lean pork hogs over a large area. Today, this paper reported on an experiment by Ningzhenyang Prefecture to improve cross-breeding of wild boars and lean pork type hog species. This is a welcome beginning. According to reports, many scientific and technical persons throughout the province have already begun to carry out this work. The managerial departments at each level must actively provide guidance, support this work in many ways, rapidly establish a number of bases for the breeding and cultivation of lean pork type hogs, and hasten the progress in breeding lean pork type live hogs.

Of course, the development of lean pork hogs also involves the problem of the type of feed. To raise lean pork hogs with a higher level of protein, we must have feed with a higher protein content. The potential of sources of protein feed in our province is large. Each year, the whole province produces 100 million jin of cottonseed cakes and vegetable cakes. If 70 percent could be used "first as feed and then as fertilizer," this could greatly raise the protein level in the feed needed for raising lean pork type hogs. Panwan Commune in Sheyang County did this well in comprehensively utilizing feed resources. This commune used 80 percent of the cottonseed cakes to feed the hogs. For 2 consecutive years, each family sold an average of three hogs, and food grains and cotton also increased in output. Therefore, we must advocate the use of cottonseed cakes and vegetable cakes to feed the hogs first and then as fertilizer in the fields in order to solve the problem of protein feed needed by lean pork hogs. The food grain departments should more actively develop and coordinate the feed processing industries so that the exchange of "the two cakes" can be done well. According to the stages of growth and development of live hogs, different types of mixed feed should be supplied. In general, as long as everyone exerts efforts and every sector coordinates with the others well, there will gradually be more lean pork hogs.

9296
CSO: 4007/595

BRIEFS

SUINING COUNTY GRAIN HARVEST--Since the third plenary session of the 11th CPC Central Committee, Jiangsu's Suining County has had bumper harvest every year. Grain output has increased by 90 percent with an average yearly increase of 90 million jin. This year it expects to reap a bumper harvest again. The county has dug 90 large, 516 medium-size and 5,820 small ditches. It has also built 588 sluices and 2,828 bridges. Some 970,000 mu of farmland is brought under irrigation, and 920,000 mu of farmland is free from waterlogging. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 8 Oct 82]

SUZHOU PREFECTURE COTTON PRODUCTION--As of the end of September, Suzhou Prefecture in Jiangsu had procured 217,000 dan of cotton, topping the same period of last year by 300 percent. The prefecture had planted 750,000 mu cotton this year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 13 Oct 82]

CSO: 4007/13

BRIEFS

DAYU COUNTY HYBRID RICE--Dayu County, Jiangxi, is reaping bumper harvest of hybrid rice crops from 46,700 mu this year. Total output is expected to reach 4.2 million jin. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 12 Oct 82]

GAOAN COUNTY COTTON--As of 25 October [as heard], Jiangxi's Gaoan County had procured 32,794 dan of cotton, overfulfilling this year's cotton procurement plan by 6.8 percent and topping the same period of last year by 80.7 percent. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 3 Oct 82]

CSO: 4007/13

PROVINCE DEVELOPS FOOD PROCESSING INDUSTRY

OW050840 Beijing XINHUA in English 0801 GMT 5 Oct 82

[Text] Shenyang, 5 Oct (XINHUA)--Liaoning Province is actively developing its food processing industry by making use of locally grown produce, according to the provincial industrial department.

In the first 8 months of this year, the output of canned food, beer, gourmet seasoning and dairy products increased by 15 percent to 31 percent compared with the same period of last year.

The province now has 16 breweries which produced 139,000 tons of beer last year as against the 57,000 tons in 1978, and the average amount consumed by each person increased from 1.87 kilograms to 4.1 kilograms during this period. The Shenyang beer factory is planned to be expanded into one with an annual capacity of 100,000 tons to satisfy the 2.6 million population of the city.

The nine small sugar plants in the province are now producing 50 varieties of products. Five of them are being expanded and transformed to increase the capacity from the present 200 tons to over 500 tons of sugar each.

All this is part of the efforts made by Liaoning Province, China's leading heavy industrial center, to speed up the growth of its light industry in line with the national policy to provide more consumer goods for the people.

In order to better meet the needs of the domestic and foreign market, the province has consistently improved the quality of its products, the officials say. Some of the products, including Shenyang liquor, Snowflake brand beer, Dalian rice wine, Hawthorn wine, applie wine, Dongfeng brand cigarette and Dalian canned conch, are very popular.

The province now grows hops, grapes, tobacco, sugarbeets and fruits and vegetables on a total of 28,000 hectares. It has also set up an asparagus production base with a total acreage of 1,530 hectares, which is expected to help increase the output value of canned food industry by 30 million yuan a year.

The total output value of the food processing industry of the province last year was 1,130 million yuan, 44 percent above that of 1978.

Light industrial output value in the province has increased from 26.7 percent of the total industrial output value in 1978 to 37.6 percent last year, making the proportions between heavy industry and light industry more rational, according to the industrial department.

CSO: 4020/11

PACE OF ANTIFLOOD PROJECTS BEING ACCELERATED

Xian SHAANXI RIBAO in Chinese 30 Jul 82 p 1

[Article: "Xianyang Weihe Flood Prevention Project Hastens Progress; as of 12 July, Engineering Projects on the Two Dangerous Segments at Xianyang Gudu and East of Gongluqiao Have Been Completed"]

[Text] Before the arrival of the flood season, the Xianyang City People's Government concentrated manpower and materials and grasped the construction of the flood prevention project on the Weihe. As of 12 July, the engineering projects on the two dangerous segments at Xianyang Gudu and east of Gongluqiao have been completed. Over 500 meters of new embankments have been built, and over 30,000 cubic meters of earth construction have been completed. Of the 1,550 concrete poured stakes needed for the entire project, 910 have been poured, and the first phase of construction has basically ended.

The Weihe flows from west to east around Xianyang City. In recent years, because the silt in the riverbed has increased, the river channel has become narrow and the water level has continued to rise. This year, to safeguard the people's lives and to prevent the loss of state property, the Xianyang City People's Government actively organized personnel in May to begin work to heighten and fortify the 2,000-meter-long embankment and to pour new foundations for the 2,300 meters of river without embankment.

During the past 2 months of construction on the Xianyang Weihe flood prevention project, many units have actively sent people to participate in construction and have quickened the progress of construction. To enable Xianyang City to safely survive the flooding period, the city people's government recently held a mobilization meeting for the second phase of construction. It decided to complete the earth embankment project along the section of the river with newly poured foundations before the flooding period arrives and to complete key well-sinking projects.

9296
CSO: 4007/595

BRIEFS

PEASANT INCOME INCREASES--According to the investigation of the income and expenditures of 984 households of commune members in 30 counties of Shaanxi Province, the average per capita cash income of peasant households in the first half of this year was 78.3 yuan, 23.4 yuan more than in the first half of last year. [HK071342 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 6 Oct 82]

CSO: 4007/13

BRIEFS

LESHAN PREFECTURE RICE PRODUCTION--The per mu yield of the 3.45 million mu of mid-season rice in Leshan Prefecture in Sichuan Province was some 800 jin and total output increased by approximately 200 million jin and was 7.5 percent more than last year. The prefecture has trained some 1.7 million rural cadres and peasant technicians, cultivated high-yielding demonstration plots of some 900,000 mu and set up some 80,000 scientific and technological demonstration rooms. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 4 Oct 82]

WENJIANG PREFECTURE PADDY OUTPUT--According to preliminary statistics, total output of paddy rice in Wenjiang Prefecture, Sichuan Province, this year was some 3.3 billion jin, some 200 million jin more than last year. The per mu yield was some 810 jin. The prefecture has a large number of communes whose per mu yield exceeded 1,000 jin. Peng County has 680,000 mu of paddy fields, whose total output exceeded 700 million jin. Qionglai County has 15 communes, whose average per mu yield of paddy rice exceeded 1,000 jin. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 5 Oct 82]

RELIEF WORK CONFERENCE--The Sichuan Provincial People's Government recently held a conference on relief work in Fuling, Daxian, Wanxian and Leshan prefectures. The conference looked into and arranged for relief work through production this winter and next spring. Vice Governor Liu Haiquan presided over the conference and spoke. Responsible comrades of relevant departments at the provincial level attended. The conference demanded that leaders at all levels and the masses in the stricken areas make sustained and redoubled efforts and further do relief work well. In particular, cold winter is soon approaching, and it is necessary to step up solving the masses' livelihood problem during the winter. In relief work, it is essential to adhere to the principle of self-reliance and mutual assistance. All places must strengthen the management and use of relief materials and funds, which should be used only for the purpose of relief and should not be misappropriated. [HK071346 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 5 Oct 82]

RICE HARVEST--Chengdu, 7 Oct (XINHUA)--Sichuan Province, China's leading rice producer, reaped a record 16.6 million tons from its 2.9 million hectares of semilate rice, one million tons or 6.4 percent more than 1981, itself a good harvest year, according to provincial authorities. Per-hectare yield was more than six tons in Mianyang, Wenjiang, Leshan, Neijiang, Ya'an, Young-chuan, Chengdu and Dukou prefectures and cities, a record for these major semilate rice growers. The authorities attributed the increased yields to popularization of improved rice strains, new cultivation techniques and the services of local agrotechnical stations. Improved rice strains were used throughout the province except in outlying mountainous areas. Nearly one million hectares were planted to corssbreed, 130,000 hectares more than last year. New cultivation techniques applied included two-stage hot-house seedling nursing and the breeding of strong seedlings at the tillering stage. In Yongchuan, Nanchong and Yibin prefectures, peasants applied zinc fertilizer to prevent seedlings from turning yellow. This year, the province also instituted a system by which commune agrotechnical stations contracted with rice growers to provide technical services for rice production. [Text] [OW081152 Beijing XINHUA in English 0723 GMT 7 Oct 82]

CSO: 4020/11

BRIEFS

FARM PRODUCTION INCREASES--Over the past 3 years, total output of grain at the farm of the second regiment of the first agricultural division of the Xinjiang production and construction corps has increased from 10 million jin to 25 million jin. In 1982, the farm submitted 700,000 yuan in profits to the state. Over the past 3 years, the farm has built houses on some 20,000 square meters, and the average per capita housing area is 8.5 square meters. Over 90 percent of the staff and workers on the farm have bought tape recorders, bicycles and sewing machines. The average savings deposited with banks by each household is 700 yuan. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 6 Oct 82]

CSO: 4007/13

BRIEFS

FISHERIES CONFERENCE--The first Yunnan provincial conference on fisheries was held in Kunming Municipality 18-26 September. The conference discussed and looked into the principle and policy on the speeding up of the development of fisheries and formulated a plan and the measures to promote the large-scale development of fisheries. The conference stated that the province has some 4 million mu of water surface, which accounts for 1/10th of the area of arable land throughout the province. Some 2.6 million mu of the water surface is suitable for artificially breeding fish. The province has very good conditions for developing fish production. Output of fish in the province in 1981 was 16,300 tons. The province has planned to achieve the target of 30,000 tons of fish in 1985. [HK121423 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 9 Oct 82]

CSO: 4007/13

BRIEFS

MEAT FROM WESTERN U.S. STATES BANNED--Taipei, 24 Sep (CNA)--The Board of Foreign Trade (BOFT) has announced a ban on all beef, pork, sausage and live cattle imports from Colorado, Utah, New Mexico and Arizona, effective immediately. According to the board, the highly communicable disease of vesicular stomatitis is rapidly spreading through the four-state region and affecting most cattle and pigs. The board noted that since Japan is likely to impose similar restrictions on imports from the region, local manufacturers of beef and pork may be able to use this opportunity to boost their frozen meat exports to Japan. [Text] [OW240427 Taipei CNA in English 0332 GMT 24 Sep 82]

CSO: 5400/4106

END

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China Report

AGRICULTURE

No. 238

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CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

COMPUTERS USED IN CROP DISEASE FORECASTING IN ZHEJIANG

Beijing JISUANJI SHIJIE [CHINA COMPUTERWORLD] in Chinese No 18, 20 Sep 81 p 1

[Article: "Zhejiang Province Achieves Preliminary Results in Using Computers for Long-Term Forecasting of Crop Diseases"]

[Text] In the past 1-2 years, the Zhejiang Computer Technology Institute has been working in coordination with Zhejiang Province Academy of Agricultural Science and Zhejiang Agricultural Department's Central Station for Tracking and Reporting Diseases and Pests in a joint project using the computer to conduct (long, medium and short term) forecasts on late rice crop disease in the province, and wheat/barley scab. Some encouraging results have been achieved. The success of long term forecasting, in particular, is of great use to agricultural production, as medium and short term forecasting can only be conducted during the middle or late growth period when the crop diseases are already beyond control and pesticides are no longer effective.

Last year, the mathematical statistical method was used in forecasting Zhenhai County's late rice crop diseases and insect pests. The computation results predicted serious calamity and the information was circulated in advance among concerned groups. It turned out that the prediction tallied with the actual disease conditions. At the end of February this year, they conducted the same computation on Jiaxing Prefecture's major and minor diseases; the results predicted light disease occurrence, which also tallied with actual conditions. Based on the long, medium and short term forecasting computation system, the Agricultural Science Institute of Jiaxing Prefecture worked in coordination with concerned crop protection departments and changed the old practice of extensively spraying "safety pesticides" by limiting the spraying area to only 220,000 mu of the entire region's 1 million odd mu, thus reducing the spray areas by 780,000 mu and cutting down the pesticide cost by over 470,000 yuan. The computer has earned the reputation of being a "good consultant" for predicting crop diseases and insect pests.

In recent years, the Institute and the Crop Protection Institute under Zhejiang Academy of Agricultural Science have expanded their late rice blast forecasting operations to 5 major prefectures and 18 counties. The computer has processed 170 years of accumulated historical information and 1.2 million data. Five comprehensive forecasting stations have been set up. The

Provincial Agriculture Department uses the computer's computation results as basis for its reports; in collaboration with the province's central station for tracking and reporting crop diseases and insect pests, it is planning to expand the wheat/barley scab disease forecasting operations to 32 counties throughout the entire province, thus allowing the computer to play a greater role in forecasting crop diseases and insect pests, open up a new path for our country's battle against crop diseases and insect pests, thereby insuring bumper harvests all year round.

9119
CSO: 4008/98

BRIEFS

UNPRECEDENTED SAVINGS--Since the Third Plenary Session of the 11th Party Central Committee, China's rural savings institutions have seen unprecedented development, three consecutive steps forward having taken place during the last 3 years as follows: A 38.6 percent increase over 1978 in 1979; a 49.8 percent incremental increase in 1980; and another incremental increase of 42.1 percent in 1981. The amount of increase during these 3 years has been almost double the development of savings deposits during the previous 29 years. As of the end of 1981, average savings per capita of rural population were 25.66 yuan, a 16.79 yuan increase from the end of 1978. This year new increases have occured in rural savings. As of the end of July the sum stood at 24,898,000,000 yuan, an incremental increase of 17.4 percent over last year, with average savings per capita of rural population amounting to 30.12 yuan. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 9 Sep 82 p 2] 9432

CSO: 4007/5

GANSU

WIDESPREAD ARMYWORM DAMAGE TO CROPS PREDICTED

Lanzhou GANSU RIBAO in Chinese 1 Jul 82 p 2

[Article in "Agricultural Forecast" column by Gansu Provincial Plant Protection Center: "There Are Many Armyworms in Our Province This Year and They Must Be Controlled Without Delay"]

[Text] Since the last 10 days of May this year, a great numer of adult armyworms have swarmed into our province. The development of the adult armyworm is relatively concentrated, and its peak period came about 10 days earlier than in previous years. The number of adults is close to that in the year of the highest incidence over the past 10 years. One black light lamp and two imago-killing devices of the measuring and reporting station of the Agricultural Bureau in Qingyang Prefecture killed 2,041 adult armyworms in the first 10 days of June, 204 times higher than the number killed in the same period of last year, and the greatest development of adults occurred on 1 and 7 June. In Lintao County, the peak development of adults occurred on 2 June, 12 days earlier than it did last year. In the first 10 days of June, a black light lamp of the measuring and reporting center of the Agrotechnical Center in Gaolin County killed 1,446 adults, 20 times the number in the same period of 1980 and 14 times the number in the same period of 1981. The peak period for adult development was from 2 to 4 June.

It is estimated that this year armyworms will be of medium incidence in the central and eastern parts of Gansu, but in some areas they will be of high incidence. In the counties of Wenxian, Chengxian, Huixian, and Tianshui, there will be a medium incidence. After 5 July, most of the armyworm larvae will have completed their three-stage development and will enter the intense feeding period of their post three-stage development. In the first and second 10-day periods of July, they will run rampant and harm such crops as wheat and corn. Therefore, in the eastern, western, and southern areas of Gansu, the crucial period for controlling larvae in the pre-third stage is from the end of June to before 5 July, and for the middle part of the province this cruicial period is the first 10 days of July.

The most effective method of control at present is the use of agricultural chemicals: 1) every mu can be sprayed with 2 jin of powder containing 6 percent dipterax; for every mu, 2 liang of raw DDVP, to which 5 jin of water is added, can be mixed with 40 jin of fine sand (earth) to form DDVP arsen opyrite for spraying evenly in the fields; on every mu, 150 jin of crystal dipterax 800 liquid can be sprayed; 4) on every mu, 150 jin of 600 liquid containg 50 percent sevin can also be sprayed; and 5) on every mu, 1 liang of raw (sulfuric phospherous) to which 150 jin of water is added, can be sprayed. When spraying with the motorized sprayer, the diluted consistency of the agricultural chemicals can be about 5 times greater than that when using ordinary sprayers. It is hoped that the agroscience plant departments at all levels will strengthen their forecasts and quickly control the armyworms.

9727
CSO: 4007/472

VARIOUS PARTS OF PROVINCE GIRD EARLY FOR FLOODS

Lanzhou GANSU RIBAO in Chinese 13 Jun 82 p 1

[Article: "Making Good Preparations Without Delay for Flood Protection Ensures Safety During Flood Season"]

[Text] According to a news roundup by our correspondents, many localities in our province, conscientiously summing up the experiences and lessons of the past, have made preparations without delay this year for flood prevention in order to ensure safety during the flood season.

In line with this year's changeable weather and early indications of floods, Jiuquan Prefecture has set up defenses for "protection against catastrophic floods" and had given priority to protecting cities and towns from floods. It had determined that the key to flood control is its 6 reservoirs, 4 dikes, and 5 channel heads. Beginning in the first 10 days of May, it held meetings on, made arrangements for, and carried out various flood-control measures. Nine flood-prevention headquarters have been set up in the prefecture with 109 working personnel assigned to them. At the 6 large and medium-sized reservoirs, 36 emergency teams and 7 emergency squads have been organized, totaling over 3,700 persons. Over 23,000 straw bags and gunnysacks have been prepared. Conscientiously drawing a lesson from the collapse of the secondary dam at Danghe Reservoir in 1979, Danhuang County has taken flood protection measures without delay. In the county, the key defenses are the Danghe Reservoir, Zhonggan Head, Zonggan Channel, Huangshui Dam Reservoir, and Chengxi Flood-Control Dike. At these places these emergency squads totaling 640 persons have been set up. The 11 people's communes in the county have each formed an 100-man emergency squad made up of cadres, people, and soldiers at the basic level.

Liangdang County, which last year suffered a catastrophic flood, first of all this year dispelled the idea, which lowers one's guard and underestimates the threat, on the part of some people that "we had our flood last year so there won't be any problem this year," and carried out flood protection ideologically and organizationally. Based on the lessons of last year, where the riverbed and ravines silted up, the river rose suddenly and sharply, and dikes were breached and dams destroyed, the county decided to take the following flood-protection measures: clearing way silt in river branches and canals, clearing away obstacles in the Yao Channel and the Guan Channel, and plugging leaks. By the end of May, over 3,100 meters of the 3,720 meter-long flood-prevention project on the Liangdang River had been completed, and it is estimated that the project will be basically completed by the first 10 days of June. Not only was the base cleaned 1.2 meters deeper than in the past but the dikes and dams were made half a meter higher and at their key positions were given reinforced concrete structures. The project to clear away obstacles in the Guan Channel is basically finished.

Jingyang County, which is located along the bank of the Huanghe River at an early date this year overcame the idea of leaving things to chance and firmly carried out the policy of "putting protection first." The county vigorously grasped the work of repairing, strengthening, and setting up defenses on water-damaged projects and important dangerous sections. The important stretches of river dikes that touch villages and irrigation facilities were made the keys to flood protection, and as fast as possible repairs were carried out to strengthen river dikes so that prepardeness would avert peril. Jingchuan County, located at the confluence of the Jinghe and Ruihe rivers, is now, with the urban construction bureau and other departments concerned in the lead, organizing technicicans to carry out flood-prevention measures such as a big safety inspection of the four ditches and the street flood drains and culverts in the city proper and its environs in order to eliminate hidden dangers in good time. This spring the county also repaired and strengthened the dike protection and bank revetment water-damaged projects along the Jinghe and Ruihe rivers, thereby strengthening their flood-control capacity.

9727
CSO: 4007/472

FULFILLMENT OF SUMMER GRAIN QUOTAS AHEAD OF SCHEDULE REPORTED

Guangzhou GUANGZHOU RIBAO in Chinese 6 Sep 82 p 1]

[Article: "Guangzhou Fulfills Summer Grain State Purchase Quotas Ahead of Schedule; Broad Masses of Commune Members Celebrate Victorous Convening of 12th Party Central Committee With Real Action"]

[Text] The broad masses of commune members in Guangzhou's suburban counties (and districts) have celebrated with real action the victorious convening of the 12th Party Central Committee by eagerly selling patriotic grain to the state. The city fulfilled its summer grain state purchase quotas 10 days ahead of schedule. As of 31 August, 574 million jin of paddy had been put into storage in 101 percent completion of state purchase quotas. The amount stored represented an increase of 89 million jin over the same period last year. In celebration of the victorious fulfillment of state summer grain purchase quotas, the Municipal Grain Bureau held an awards meeting on 3 and 4 September.

The speed of storage of this year's state purchased summer grain, the large quantity, the good quality, and the high enthusiasm of the masses for selling their grain to the state were unprecedented. During the high point of storage, people made 60,000 trips daily to haul grain. Households in the municipality selling 10,000 jin of grain numbered 185. In Hua County alone, households that fulfilled their quotas for the entire year from a single crop numbered more than 22,000. This was more than 37 percent of the total number of households. Grain sent to storage was dry, plump, clean, and fresh in color and luster.

This year's fine situation in state purchase of summer grain fully reflects the power of party policies. Since the Third Plenary Session, the party's various rural programs and policies have been comprehensively implemented; various forms of production responsibility systems have been perfected and improved; the obligations commune members owe to the country and the collective have been spelled out; the enthusiasm for production of the broad masses of peasants has been fully aroused; and these actions plus scientific farming and selection of superior varieties of hybrid rice for growing have brought about a bumper harvest from the early rice crop, with an increased harvest in every county and prefecture. In addition, the 3 year guarantee policy in assumption of sole responsibility for grain production by the masses; went from understanding to confidence, and from confidence to a sense of relief, thereby stirring enthusiasm for early sales of grain, sales of good grain, and much sales of grain.

The fulfillment of state summer grain procurement quotas is also inseparable from the efforts of the broad masses of employees in grain departments. After rural villages instituted various forms of production responsibility systems, peasants changed from a system whereby production teams sold the grain to household sales of grain, and the number of grain selling units changed from the former somewhat more than 17,500 to somewhat more than 480,000. The amount of work at grain stations increased 22 fold. Faced with this new situation, grain departments spared no effort, and more than 5,000 employees worked round the clock, each working more than 10 hours daily. In order to hurry the pace of grain procurement, all grain stations increased the number of procurement sites, set up more scales, improved methods of receiving grain, and simplified grain receipt procedures.

In order to summarize experiences promptly and reward the advanced, the Municipal Grain Bureau decorated 30 advanced collectives and 217 advanced individuals at awards meetings.

9432
CSO: 4007/5

ON-THE-SPOT MEETING URGES EFFORTS TO RAISE SOIL FERTILITY

Harbin HEILONGJIANG RIBAO in Chinese 27 Jun 82 p 1

[Article: "Do a Good Job of Raising Livestock and Collecting Manure So As To Effectively Restore Soil Fertility"]

[Text] According to a survey, the organic matter content of the soil in our province's cultivated land is now decreasing at an annual rate of from 0.1 to 0.2 percent. Recently, at an on-the-spot meeting on raising livestock and collecting manure, the provincial government exhorted rural areas throughout the province to build up the stocks of agricultural fertilizer centered on raising livestock and collecting manure, so that next year the application of farmyard manure will rise from its present level of 2,000 jin per mu to over 2,500 jin per mu.

There are many advanced models in livestock raising and manure collection in our province. In Bayan County, which for many years has had sustained stable and high grain output, most of the communes and production teams have got a tight grip on livestock raising and manure collection, and now the average per mu application of farmyard manure has reached 4,000 jin. By widely building up the "two management and five changes" and the "five haves and three diligents," Hailun County has attained bumper harvests in grain and livestok. Chaoyang Commune in Zhaozhou County, Fendou Commune in Lanxi County, Fuqiang Commune in Baiquan County, Liagang Commune in Suihua county, as well as Lianmin Production Brigade of Lianmin Commune in Keshan County organized their agricultural ranks to raise livestock and collect manure. They have raised pigs in sties and obtained high-priced manure and have also created various methods of making fertilizer, so that in the past several years the more their land is planted the more fertile it becomes, thereby beginning a good approach to organic agriculture. After seeing some models, the comrades taking part in the meeting held unanimously that to do a good job in raising livestock and collecting manure, combining agriculture with animal husbandry and enhancing agriculture's internal energy cycle are effective ways of changing the present local decrease in soil fertility and attaining stable and high grain output. They expressed their determination to spread widely these experiences. The provincial departments concerned have decided to reward a batch of units and individuals who achieve outstanding results in raising livestock and collecting manure.

Wang Luming, secretary of the provincial party committee and vice governor, presided over this on-the-spot meeting held in Bayan and other counties. At the meeting, various advanced units in raising livestock and collecting manure introduced their experiences.

9727
CSO: 4007/472

EXHORTATION ISSUED ON FALL WHEAT PLANTING

Xian SHAANXI RIBAO in Chinese 29 Aug 82 p 1

[Article: "Province's Fall Sown Area Substantially Completed; Scientific Farming of Wheat Has Become a Priority Matter; Provincial Bureau of Agriculture Convenes Symposium on Experiences in Bumper Wheat Ouptut"]

[Text] Provincial Bureau of Agriculture statistics as of 24 August report a 281.2 million mu area in the province sown to summer grain. This approaches the area suggested for the province this year.

This year's bumper summer grain harvest greatly encouraged the broad masses of peasants to do a good job preparing for fall sowing to achieve continued increases in output next summer. In making arrangements for the area to be sown in the fall, all jurisdictions emphasized stabilization of the area, readjustments taking place within the context of stabilization, appropriate increases in crops that nurture the soil such as summer grain other than wheat and rice, and rapeseed, a main attack on improved yields per unit of area, and concentration of efforts on medium yield areas. A trend toward possible planting in excess of norms has been predicted for the province.

Not long ago, the Provincial Bureau of Agriculture convened a provincial symposium on bumper wheat harvest experiences at Fufeng. Delegates to the symposium included representatives and experts from each prefecture and municipal bureau of agriculture and agricultural institutes, and from 10 wheat growing counties and agricultural research units in Central Shaanxi. Emphasis was devoted to an exploration of the reasons for this year's bumper wheat harvest and to the laws governing increased yields. In addition, constructive ideas were put forward about this fall's sowing.

Comrades atending the conference believed the main reason for this summer's large bumper crop was active promotion of agricultural production responsibility systems. In communes and brigades that instituted "double contract" responsibility systems, results in increased yields were particularly outstanding. In places having identical natural conditions, results were vastly different when contracting was done and when it was not. When contracting was done, yields increased greatly. Second was steady rise in the level of scientific farming. Of course, this year natural conditions were good. The farmland water conservancy of many years, the readjustment of crop patterns, the promotion of superior varieties, and promotion of agricultural techniques all functioned to provide impetus. In future under a very good situation in which responsibility systems have been instituted, scientific farming should be made a priority matter.

In summarizing the technical measures accounting for this year's bumper wheat harvest, everybody acknowledged that four relationships were handled well.

The first such relationship was the relationship between wheat and fall grains other than wheat and rice, with wheat production being placed in an important position. This year's experiences further verify that whether grown on wetlands or drylands, wheat is a high yield crop whose potential is very great. To squeeze out summer grain with autumn grain, and to squeeze out wheat with grains other than wheat or rice blindly is incorrect. Of course, in different areas, how the relationship between wheat and grains other than wheat or rice will be worked out will have to be different. The fairly unanimous view of everyone was as follows: In the dry plains prefectures north of the Wei, it is necessary to continue to adhere to a program of "three dominants" (namely the dominance of summer grain in grain production, the dominance of wheat in summer grain production, and the dominance of wheat as the main crop). Central Shaanxi prefectures should treat summer and autumn crops with equal importance and strive for high yields from both seasons. In northern and southern prefectures of Shaanxi, the proportion of wheat is fairly small; however, in some places a potential for increased yields still exists.

The second relationship was the relationship between wheat colonies and individual plants, which promoted balanced yield increases. The number of spikes per mu, the number of grains per spike, and the per thousand weight of grains are the three fundamental elements that make up wheat yields per unit of area. To realize increases in wheat yields, it is necessary to adapt general methods to local situations of soil, water and fertilizer, climate, and varieties, to use scientific farming techniques, and to coordinate the relationship between growth and development of wheat colonies and individual plants. Last winter wheat seedlings were weak and tillering slight. Nevertheless, as a result of intensified care and spring rains, spikes were large and grains plump, and so a bumper crop was harvested. This circumstance demonstrates that the situation of individual plants plays a decisive role in output. Therefore, high yield areas should take the new path for increased yields of small plant colonies and sturdy individual plants. Owing to the restriction of soil fertility and water and fertilizer conditions, medium and low yield areas should continue equal emphasis to plant colonies and individual plants, make efforts to increase soil fertility and to increase the amount of slwing so as to make sure that main stems form spikes, and finally to guarantee that each mu has a sufficient number of spikes to achieve the goal of increased yields.

The third relationship was the relationship between planting and field care with planting being placed in the priority position. "Planting is most important but the wheat harvest depends on care" is a capsulization of long practical experience by the peasant masses. Wheat is a closely planted crop, and in dry plains areas in par-icular, because of the effects of precipitation, there is little room for maneuver for doing more work or increasing fertilization as part of field care once sowing has been done. In irrigated areas where water and fertilizer conditions are good, the room for maneuver to win victory through field care is greater, but good planting can greatly reduce increased expenditures resulting from additional field care measures. Twice as much can be achieved with half the effort. Good planting is the foundation and completely accords with the laws of wheat's growth and development. To a very large extent this year's bumper wheat harvest resulted from having devoted attention to three points when the wheat was sown last fall. First was scientific fertilization with increased applications of base fertilizer, promotion of deep fertilization with a combination of chemical phosphate and potash fertilizers, and fertilizing before the advent of winter. Second was a sensible layout of varieties with the area of the province planted to superior varieties amounting to 80 percent of all wheatfields. Third was triumph over disasters caused by rainfall and waterlogging in order to compress the sowing season so that 70 percent of the wheatfields were planted during the season that produces high yields. Without this foundation, achievement of a bumper harvest this year would have been hard to imagine. Likewise, even with such a foundation, had it not been for a series of field care tasks last winter and this spring, achievement of high yields would also have been impossible.

The fourth relationship is the relationship between winter and spring care with emphasis on care once planting has been done. In view of the situation last year of few basic wheat seedlings, little tillering, and small plant colonies before the arrival of winter, the former method in which control was dominant was changed for a combination of stimulation and control in caring for large plant colonies of flourishing seedlings, attention being concentrated mostly on stimulation and the breeding of sturdy seedlings for very good results. This experience merits serious attention. This year's experience with a bumper wheat harvest shows that that both pre-winter care and springtime care are both very important. Pre-winter care, in particular, positively cannot be overlooked. Emphasis should be placed on care as soon as planting has been done with "early" being the key word, making full use of the beneficial opportunity before the arrival of winter to intensify field care.

In short, as a result of natural conditions, experiences with increased yields in agricultural production are always formed by and accumulated by certain conditions. When we summarize experiences, it is necessary, first of all, to affirm many years of effective basic experiences and the new experiences produced by special conditions, and then dialectically and conditionally to apply them. One cannot take the experiences of any particular year as experiences of general applicability or use experiences under special conditions as basic experiences. For example, one cannot take "delayed planting of wheat can bring bumper harvests," or "delayed care can also increase yields" as basic experiences for promotion.

The time for fall sowing this year will soon be here, and comrades believe that beginning right now summer grain producing areas should concentrate attention on five matters as follows:

1. They should widely arouse the masses to make a mass summarization of this year's experiences in a bumper summer harvest to buttress their confidence in achieving an even greater bumper harvest.

2. They should respect the views of the masses and put production responsibility systems in place with all possible speed before fall sowing begins.

3. They should do an all-around good job of work preparatory to fall sowing, concentrating on preparations for applying base fertilizer to wheatfields, and to readying the land to maintain soil moisture and for the planting of wheat. They must be sure to plant the wheat on a genuine foundation for bumper harvests.

4. They should institute fall sowing quotas.

5. They should adopt various means for launching technical training. Agricultural institutes, technical promotion departments, seed departments, plant protection departments, soil fertility departments, and technical cadres should develop the signing of technical contracts with communes and brigades in a planned way, establish technical service stations and consulting offices, print and disseminate small scientific and technical bulletins, run scientific and technical discussion groups, engage in short term training, and widely publicize practical techniques in scientific farming.

On 21 August, the provincial government sent forward the report on the symposium proceedings and called upon all jurisdictions to concentrate their strength on doing a good job of preparing for fall sowing to lay a good foundation for a bumper summer harvest next year.

9432
CSO: 4007/5

SHANDONG

SPRING SOWING COMPLETED IN GOOD TIME DESPITE DROUGHT

Jinan DAZHONG RIBAO in Chinese 9 Jun 82 p 1

[Article: "Rural Areas of Our Province Complete Spring Sowing Task in Good Time"]

[Text] Led by the party committees and governments at all levels, the great number of cadres and masses in our province, fighting bravely against a serious drought, have completed the in spring sowing task in good time, and the quality of sowing on the over 46 million mu of spring fields is better than expected.

This year our province's spring sowing was carried out under conditions of a severe drought over consecutive years. The severity of the drought, the shortage of water sources, and the degree of difficulty in spring sowing were all rare in history. Faced with the serious drought, the great number of cadres and masses carried on the spirit of arduous fighting and consecutive battles and carried out a tenacious struggle. In March, the provincial party committee and the provincial government held, one after the other, a drought-resistance "double contract" [fixing output quotas based on households and peasant households assuming full responsibility for task completion] symposium and a cotton production symposium, and also sent out three work teams to go separately to various places to help resist the drought. Most of the responsible comrades of the provincial party committee and the provincial government went to the frontline of production and provided specific help at the basic level in solving real problems. The various areas, integrating this help with their own reality, conscientiously strengthened their leadership and universally focused on leadership, labor, time, water sources, and water implements. Because the leaders in these areas vigorously grasped affairs, the production responsibility system was further perfected, thereby promoting the successful carrying out of drought-resistant early spring sowing. Sowing was begun almost a week ahead of the time it began last year, and the entire sowing period was shortened by 10 days to half a month as compared to that of last year. "March seedlings" were brought to 70 or 80 percent of the cotton fields. In the process of preparing for sowing and sowing, the various areas by all ways and means expanded the area under irrigation bringing moisture to the soil, prepared the soil meticulously, increased the application of fertilizer, and regulated and replaced good strains, thereby laying a good foundation for agricultural bumper harverts throughout the year.

In order to do a good job of fighting the drought and carrying out spring sowing, the central authorities and the provincial authorities, under comparatively difficult financial circumstances came up with over 53 million yuan in funds for use by various areas in our province in water conservancy projects that would fight the drought, and at the prefectural and county levels over 46 million yuan were extracted from local finances to aid in the fight against the drought. Commerçial departments and supply and marketing departments gave priority to supplying materials such as drought-resistance oils; at a crucial moment in the sowing the electrical power departments provided an additional 150,000 kilowatts of electricity for fighting the drought and the industrial departments relinquished 170,000 kilowatts of electricity. The PLA stationed in our province gave energetic support in manpower and materiel.

Now, of the province's 46 million mu of spring-sown crops, over 80 percent have reached a full stand, and most of them are coming along better than last year. There is widespread squaring on the over 20 million mu of cotton, and some of the cotton has already entered the squaring stage. While getting a tight grip on summer harvest and summer planting, all the areas are vigorously taking measures, rationally deploying labor power, and intensifying spring seedling field management so as to stirve by every means to have the autumn season supplement the summer season and thus attain bumper harvests throughout the year.

9727
CSO: 4007/472

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TITLE: "Ways of Producing the Lean-meat Type Guangdong Pigs"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 1-4

ABSTRACT: There are pigs raised for fat, pigs raised for lean meat, and pigs raised for both uses. With the expansion of foreign trade and rising standard of living, the market demand for the lean-meat type pork has been rapidly growing. In order to produce the lean meat type porkers, there are 4 methods to choose from: (1) Raising pure breed or hybrids of the 4 meat porkers already introduced; (2) Breed or cross the province's own fat porkers with foreign species as the province has no native lean-meat type pigs; (3) Reconstruct native fat type pigs and transform them to the meat type; (4) Hybridization using all commercial pigs of the lean-meat type. Following discussions of these methods of breeding lean porkers and factors, such as the nutrition level, the feeding method, and the butchering time, which contribute a great deal to the lean meat content, the paper suggests that in order to produce more lean meat porkers, the province should practice the system of higher purchase price for better quality porkers, establish meat porker production lines, strengthen selective breeding, and enlarge the sources of protein rich feed.

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TITLE: "Compilation and Application of the Experimental Feeding Standard of Meat Chickens in Guangdong Province"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 4-7

ABSTRACT: In the process of formulating the standard, the emphasis was to study the energy and protein requirements of the meat chickens of local and introduced varieties in the province. The method of biostatistics was employed to analyse and compute the metabolism and protein needs of 3150 seed chicks and 4625 meat chickens to derive a regression equation to calculate the relationship between the daily protein intake and daily weight gain. The result was checked with the National Chicken Feed Standard (draft) and the NRC Standard (7th edition) of the USA. The contents of the experimental standard are reported and discussed, including contents of typical feed mixtures recommended and their contents of nutrients.

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TITLE: "Relationship Between Temperature and Contents of Chlorophyll, Root Vitality, and Soluble Sugar Content of Hybrid Rice"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 8-12

ABSTRACT: This paper reports experiments the results of which demonstrate that during certain key stages of growth and development, such as ear-forming [boot] stage, the difference of chlorophyll content between cold and warm weather is great, and the greater is the difference, the poorer is the fruiting rate. Results of α-naphthamine oxide tests and the method of fluid flow quantity (weight) of root wound demonstrate that the lower the temperature the greater is the weight reduction of the fresh root. Results of anthrone method of measuring the soluble sugar contents demonstrate that the sugar content of the spike is higher when the temperature is either suitable or higher. Under low temperature conditions, the sugar content of the spike drops somewhat and its resistance to adversity is also weakened. Detailed data of the experiments are reported.

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TITLE: "Quick Method of Breeding Three Generations of Late Rice in One Year"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 12-15

ABSTRACT: Since 1979, a method has been adopted to start cultivating late rice in the winter in Hainan Island, followed by direct seeding in Guangzhou using short-daylight treatment with shades to produce 3 generations in one year. With this method, basically stable materials may be selected out in 2 years [instead of grow-one generation a year.] Of the new line of late rice thus produced, Qinghuaai expresses good resistance to white withering disease with a relatively high yield, 15 percent higher than the control, Erbaiai. Major technical measures of the 3-generations in one year breeding method are introduced in some detail.

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TITLE: "Principle of Cold Tolerance of the Method of Thin Film Seedling Cultivation Without Bud-forcing and the Value of Its Utilization"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 15-18

ABSTRACT: In the past 10 years, the institute has adopted the technique of using plastic film cover to cultivate early rice seedlings without bud forcing (i.e. seeding directly after soaking.) There has been no incidence of dead seedlings even under the severely low early spring temperature condition of 1976 and 78. The method has made it possible to use intermediate ripening varieties of early rice to allow enough time for turning and transplanting the late rice crop after the early rice harvest. Experiments demonstrate that with bud forcing, the bud grows faster than the root to cause the endosperm to be consumed much too fast. This is not favarable for the seedling to develop cold resistance. The use of plastic film creates the favorable condition for the seeds to germinate normally, i.e. without bud forcing and for the seedlings to develop natural and healthy root system which protects the seedlings from the cold temperature.

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TITLE: "Analysis of Black-root and Yellow-stunt Condition of Medium-size Rice Seedlings With Soil Grown in Trays"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 19-21

ABSTRACT: Rice seedling standardization is the key to machine transplanting and growing seedlings in trays is an effective method of standardization. But, seedlings grown in trays without air holes are found to have black-root and yellow-stunt conditions when they are left in the tray until the medium-size stage, i.e. having 3-5 true leaves. The longer the seedlings are left in the tray before transplanting, the more severe are the conditions. This paper reports a study on the relationship between the size of the air hole or the total area of the air holes and the black-root and yellow-stunt conditions of the rice seedlings. It is determined from the study that under the condition of 30 percent air hole area at the bottom of the tray, with hole diameters of 4.8, 6.0, 8.0, or 10.0 mm, the quality of seedlings is close to that of those grown in outdoor open seedbeds. The effect of air hole area is greater, and under the condition of 30 percent area of holes, 4.8 mm diameter holes are best for the seedlings.

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TITLE: "A Study on Soil Organic Matter of Major Paddies in Zhujiang Delta"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 22-26

ABSTRACT: Beginning in 1979, the authors carried out a project of fixed position observation and analysis of soil organic matter characteristics of paddies of some major soil types in counties of Zhongshan, Nanhai, Fanyu, Doumen, Xinhui, Dongyuan, and Shunde of the Zhujiang [Pearl River] delta. Findings of the study include the following: (1) Organic matter and nitrogen contents of the sediments and newly diked paddies vary very little to indicate uniformity of parent materials in the delta; (2) In general, the organic matter and nitrogen contents of sugar cane fields are lower than those of rice paddies, yet they are still higher than those of the sediments or newly reclaimed land; (3) Organic matter balance varies a great deal from paddy to paddy to indicate that some paddies are developing in the direction of mature soil and others in the direction of bony thin soil; (4) The oxidation rate of organic matter is higher in sugar cane fields to indicate that an upland cropping environment is more favorable for organic matter conversion than the paddy environment; old organic matter that is difficult to decompose can be found in the paddies. The following effective measures are proposed: (1) Regular applica-

[continuation of GUANGDONG NONGYE KEXUE No 5, 1982 pp 22-26]

tion of organic fertilizer and consistently turning stubble back into the soil; (2) Practice paddy and upland crop rotation to promote material transformation in the soil.

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TITLE: "Effects of Different Winter Crops in Dual-season Rice Paddies on Yield Increase and Fertility Nurturing"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 pp 27-30

ABSTRACT: Experiments were carried out from the early season of 1978 to the late season of 1980 in Fushan Prefecture under the condition of cultivating 2 crops of rice a year, to observe the effect of different winter crops, wheat, wheat and green manuure, or beans on soil fertility and the total unit yield. After continuously cropping of these 3 years, the organic matter and whole nitrogen contents of plots of all systems of crop rotation are higher than before the experiment, but regarding nutrient balance, the loss of potassium is very great. In general, there is some gain in nitrogen, a great deal of gain in phosphorus, and a very large loss in potassium. With the rotation system of rice, rice, wheat, a great deal of chemical nitrogen is applied, but the quantity of nitrogen gain is the smallest. With the system of rice, rice, beans [broad bean] the smallest amount of chemical nitrogen is applied, but the nitrogen gain is 0.82 jin/mu higher. With the system of rice, rice, wheat and green manure, the same amount of chemical nitrogen is applied in addition to the green manure, the nitrogen gain is the highest, 4.30 jin/mu, compared with 2.37 jin/mu with the rice, rice, wheat system. An increase of potassium fertilizer application is extremely important, of course, regardless of the crop rotation system.

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TITLE: Brief Introduction of a Lean-meat Type Porker--the Hanhua Swine"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 5, 8 Sep 82 p 43

ABSTRACT: The Hanhua swine is bred by the institute through hybridization of of a Guanghua mother and Hampshire father. The hybrid Hanhua has only a thin layer of fat on the back. The lean meat rate is 53.53 percent and the daily weight gain is 632.38 g. To gain 1 kg of live weight, the Hanhua swine requires 9130.32 Cal of digestible energy and 353.77 g of digestible protein. The quality of the meat is very good. It is a meat type commercial porker worthy of extension.

6248
CSO: 4011/8

Machinery

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TITLE: "Study of Rheological Characteristics for Paddy-field Soil of China (2)--Investigation on Thixotropic Behavior for Clayey Paddy-field Soil"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 9-15

TEXT OF ENGLISH ABSTRACT: In this paper the paddy-field soil is examined with the extrusion rheometer and is considered to be a thixotropic material. It is found that the thixotropic effect is intensive when the moisture content of the soil is within the range of 40 percent to 70 percent. The empirical equation which expresses the relation between the thixotropic rate and the moisture content of the soil can be presented as follows:

$$T = aw^{b}e^{cw}$$

General aspects of foreign investigations of the soil thixotropic behavior are also mentioned in this paper.

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TITLE: "The Influence of Airstream Distribution Along a Sieve on the Separation of Grain Mixture"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 16-28

TEXT OF ENGLISH ABSTRACT: An analysis has been carried out that indicates that the motional trajectory of grain mixture is influenced by factors such as velocity and direction of airstream, initial velocity and direction of the materials. The velocity and direction of airstream are considered to be main factors. The critical velocity at which the various parts of materials are blown out of the sieve of 1.2 m in length has been calculated. The airstream distribution on a sieve has been analyzed with the new concept that the airstream velocity varies along the sieve and decreases linearly with the height over the sieve. The influence on the separation of three typical modes of airstream distribution is analyzed. Also, the influence of the arrangements of working elements in the cleaning shoe on the airstream distribution and the problems in adjusting the airstream distribution on the sieve by setting the air deflector plates are studied.

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TITLE: "Study of Physical and Mechanical Properties on Vibration of Paddy and Wheat Crops"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 29-41

TEXT OF ENGLISH ABSTRACT: A number of research works have verified that crops in a head-feeding threshing cylinder have a vibratory form of motion. The physical and mechanical properties of vibration for paddy and wheat crops have been researched, and measurements have been taken for geometrical dimensions relating to vibration, weight, rigidity, damping, etc. The natural frequencies and normal vibratory modes in ear and stalk systems for some lower steps under varied conditions (depending on varied boundary conditions) were measured. Theoretical calculations and analyses were made using a mathematical mode on a computer. The results of the tests and theoretical calculations indicate that, similar to the physical and mechanical characteristics of the crops, the performance of mechanical vibration is also one of inherent properties for each crop and has definite statistical regularity. It is important to explore these properties and apply them to the principles of a head-feeding threshing machine.

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TITLE: "Experimental Research on Tooth Bearing of the Spiral Bevel Gears of Tractors"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 42-52

TEXT OF ENGLISH ABSTRACT: When the setting of a pair of spiral bevel gears, such as its mounting distance, shaft offset and shaft angle, etc., was changed, its tooth bearing varied in some way. In this paper, the patterns of the tooth bearing variation of Gleason and Oerlikon spiral bevel gears for tractor (or automobile) main driving were studied and summarized, and a criterion for determining the direction of the shift of the tooth bearing along the tooth width was advanced. Based on the loading test for both types of spiral bevel gears on the "Dongfanghong-75" tractor, the patterns of the tooth bearing variation under loading were presented.

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TITLE: "On Suitable Fitting of Centering Surfaces Between Mating Spline Parts in Agricultural Machinery"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, 1982 pp 53-62

TEXT OF ENGLISH ABSTRACT: A study on the working behavior of centering surfaces between mating spline parts is made in this paper by means of the analysis of kinematics and dynamics of the spline parts when the axes of the two mating parts (the spline shaft and the coupled gear) slope, the measurement of axial thrust at the gears coupled with the spline shaft in the gear box under both laboratory and field test conditions, and the statistical analysis of information from practical applications on several models of tractors. The results show that the gears on which the teeth are located at either end (or at both ends) of the spline hub will slope with respect to the axis of the spline shaft due to the existence of clearance between fitting surfaces when the gears are being loaded and this slope will cause a relative axial slide between the mating spline parts when the parts are rotating around their axes. Add to this the uneven distribution of the tangential forces at the spline teeth and the effect of friction in contact surfaces,

[Continuation of NONGYE JIXIE XUEBAO No 3, 1982 pp 53-62]

and an axial thrust and movement of the coupled gears will occur. When the clearance increases up to a certain limit, for instance, to 0.07 - 0.1 mm for a shaft diameter in the range of 30-50 mm, the axial thrust will increase and that will cause severe wear on the contact surfaces of both the spline teeth and the gear shift forks, and self-disengaging of the shift gear from its meshing position may happen when the tractor is working. According to the requirements of application and processibility of the splines with hard broached holes, the authors suggest suitable fitting of centering surface between mating spline parts for different construction and working conditions.

9717
CSO: 4011/13

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TITLE: "Development of a Science of Agricultural Mechanization on the Basis of A Chinese Style Mechanization of Agriculture--Beginning With a Review of the Process of Agricultural Mechanization in Heilongjiang Province"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSLATIONS OF THE CHINESE SOCIETY OF AGRICULTURAL MACHINERY] in Chinese No 3, Sep 82 pp 1-8

ABSTRACT: Comparing the results of 30 years of agricultural mechanization in Heilongjiang Province with these in the USA and Japan, the author maintains that agricultural mechanization obviously failed in Heilongjiang Province in terms of reducing the number of draft animals and the farm population and in terms of increasing the income of farmers. Although the USA is a country of large land and small population while Japan is a country of small land and large population, agricultural mechanization succeeded in both countries in those terms. The author claims that the failure is due to insufficient coordination of related departments of the national economy. The supply of some machines is not in line with the demands, and there has not been serious study and development of a science of agricultural mechanization. Such a science should contain the following: (1) A system of agricultural machines; (2) Energy sources for agricultural production; (3) Operation and management of agricultural mechanization; (4) Extension and service of agricultural mechanization; (5) Economics of agricultural mechanization. With the development of that kind of science, a Chinese style agricultural mechanization may emerge to cause it to be specially suitable for the Chinese condition of

[continuation of NONGYE JIXIE XUEBAO No 3, 1982 pp 1-8]

being a socialist country of little per capita natural resources and weak foundations of economy and industrial and agricultural technology. In the viewpoint of the author, the Chinese style agricultural mechanization should possess the following major characteristics: (1) An outlet should be arranged for every farm labor displaced by agricultural mechanization; (2) The chief goal should be yield increase and energy saving; (3) The capital for agricultural mechanization should come from a combination of self-reliance of communes and brigades and State financial assistance. The key is suitable techniques instead of a hurry pursuit of total mechanization. Consideration must be given to the interests of all 3 sectors of the State, the collective bodies, and the individuals. Some farmers should be allowed to get rich first, yet, the wealth of all must also be the goal.

6248
CSO: 4011/13

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TITLE: "Main Points of Agricultural Regionalization of Taihe County, Jiangxi"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 9-11

ABSTRACT: On the basis of soil surveys and forest surveys, the 90-thousand-character volume, TAIHE COUNTY COMPREHENSIVE AGRICULTURAL REGIONALIZATION, JIANGXI PROVINCE has been compiled. Its major contents are outlined in the paper. The abundant resources of light, heat, and water of the county are favorable for the growth of many types of subtropical plants. There are 1.255 million mu of forest cover but very few grasslands. Only about 1/5 of the county is cropland and the mountains and hills are poorly utilized, leaving a great potential for development. The regionalization plan (map included) divides the county into 5 agricultural regions: (I) Timber forest region of western mountains and hills; (II) Grain and oil producing tree region of hills and plain to the west of Ganjiang river; (III) Economic crop region of Ganjiang river valley plain; (IV) Grain and oil producing tree region of the hills to the east of Ganjiang; (V) Timber forest and oil tea [Camellia oleifera Afel.] region of the mountains and hills in the southeastern part of the county. Detailed development plans are also outlined in the paper and discussed.

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TITLE: "Preliminary Evaluation of Water Resources of Beijing City"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 12-20

ABSTRACT: In recent years, water consumption has been increasing rapidly in Beijing City. The phenomenon of various users competing for water occurs frequently. It is high time to give an accurate evaluation of the city's water resources. On the basis of a study on the transforming relationship of runoff of Haihe and Kuanhe valleys, the paper fully utilizes all available survey data and research results, to compute the atmospheric precipitation, the stream runoff, the ground water supplement to produce a multi-year average quantity of water resources in Beijing of 56.6 hundred million m^3. After calculating the water consumption of agriculture, industries, and the city's inhabitants, the paper concludes that in an average year, the supply and the demand can reach a balance and Beijing may even provide 6 hundred million m^3 of water to Tianjin. In years of shortfall, Beijing not only cannot supply Tianjin with water but also will be 4 hundred million m^3 short in the first year. Ways must then be found to restrict water use for agriculture. If drought continues for 2 years, the deficiency will be 14 hundred million m^3. Development and utilization of water resources have reached a very high level in Beijing. Measures to be taken to manage the current new stage of determining the needs according to the supply are discussed.

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ORG: Research Institute of Geography, Henan Provincial Academy of Sciences

ITLE: "Preliminary Study on Scientific Ways of Transferring the Water of Huanghe"

OURCE: Dalian ZIRAN ZIYUAN [NAUTRAL RESOURCES] in Chinese No 3, Sep 82 pp 21-29

BSTRACT: In an average year, Huanghe has a water volume of 480 hundred million m^3 and carries 16 hundred million tons of silt. By 1980, more than 200 hundred million m^3 of its water was used to irrigate 50 hundred million mu of cropland and there remained 200-300 hundred million of its water draining into the sea. As there is no other source of irrigation water for the banks of Huanghe, transferring its water is a necessity, but in the lower reaches, Huanghe flows above the ground and its small branches are basically seasonal drainage channels; therefore, in this area the only source is ground water, which must be locally supplemented. In many places, the round water has been used beyond the quantity of local supplement to cause obvious rop of the water table, and transferring the water of Huanghe to recharge the gound water has become an urgent necessity. This paper analyzes these and other situations and suggests scientific ways of using the water of Huanghe along with its silt to reconstruct large areas of saline and alkaline lands in Kaifeng and Shangqiu, for example, where 2-3 million mu of such wasteland are awaiting development.

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TITLE: "Rate of Precipitation Variation of Ten-day Periods During the Flood Stage of May to September in East China"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 51-58

ABSTRACT: In China, especially East China, precipitation is influenced mainly by monsoons and about 1/2 to 2/3 of the annual rainfall is concentrated in the summer, which is the key period of crop growth. The amount of monsoon rains basically determines the amount of yield. Chinese scientists had studied the rate of variation of monsoon rains in the 30's and 50's but mainly on annual and monthly variations. Based upon long term precipitation data of the Central Weather Bureau, the author selected the records of 110 weather stations located to the east of 100° E. Long, and 20-50° N. Lat. The data analyzed are for the 15 10-day periods of May-Sep in the 24 years of 1952-1975. Judging from the spatial distribution of the rate of variation of 10-day periods, the changes appear to be gradual and may be generally divided into 4 types. The maximum variation rate and the minimum variation rate are computed and locations of their axes defined. The movement of the axes is found to be related to the northward advance and southward retreat of the subtropical high pressure system.

AUTHOR: LU Yazhou [7120 0068 3166]
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TITLE: "Analysis of Supply and Demand of Water Resources in North China Plain"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 77-87

ABSTRACT: The N. China plain is frequently visited by natural calamities, which commonly seem to be mostly droughts. Analysis of historical records reveals that on the average there is one drought every 2.6 years and one particularly severe drought every 55 years, but there is one flood every 1.5 years and one particularly severe flood every 16 years. Through an analysis of supplies and demands of many years, the authors conclude that with some additional reservoirs in the mountainous as well as the plain areas of N. China, about 40 hundred million m^3 of water supply may be added; therefore, a 75 percent rate of supply for a medium severe drought year can by basically guaranteed if water-source constructions within N. China itself are completed. The paper proceeds further to analyze the water volume of Changjiang during the dry season to demonstrate that transferring water from S.China to the north may not be feasible, at least not in the next 10-20 years. In the long run, feasibility of the project will have to be determined by the water needs of the north, the amount of water of the Changjiang capable of being stored, water needs for treating saline and alkaline lands, changes of the estuary of Changjiang, and the economic capability of the nation.

AUTHOR: None

ORG: None

TITLE: "Abstracts of Speeches of Some Comrades at the Preparatory Meeting of the China Natural Resources Research Conference"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 3, Sep 82 pp 88-96

ABSTRACT: On 6-8 Apr 82, among the participants of the preparatory meeting of the China Natural Resources Research Conference, QI Kechang [3344 0344 2490] MA Shijun [7456 0013 0193] WU Chuanjun [0702 0278 6874] SHI Shan [4258 1472] XU Qing [1776 7230] and MO Jianquan [7796 7003 2164] delivered speeches, explaining the concept of natural resources, the contents of natural resources research, the relationship between natural resources research and modernization construction, and problems relating to the purpose and responsibility of natural resources research. These speeches are individually excerpted in the paper.

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I. GENERAL INFORMATION

BUMPER EARLY RICE CROP REPORTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 26 Sep 82 p 1

[Article: "Early Rice State Purchase Quotas Overfulfilled Throughout the Country. In Some Prefectures Have Appeared a Group of Households That Have Sold the State 10,000 Jin of Early Rice From a Single Crop, Production Teams That Have Fulfilled Their Total Annual Purchase Quota in a Single Season, and Production Brigades That Have Sold 1 Million Jin of Early Rice to the State in a Single Season"]

[Text] According to statistics as of 20 September from 10 early rice producing provinces and regions, early rice now stored in granaries overfulf-lls state procurement plans by 107.2 percent. As compared with the same period last year, speed has been faster, quality of grain in storage is better, and quotas were fulfilled 5 days earlier. The provinces and regions of Guangdong, Guangxi, Fujian, Jiangxi, Hunan, Hubei, and Zhejiang overfulfilled purchase quotas. Statistics as of 15 September show that in Hunan and Guangxi 1.1 billion jin more of early paddy (converted to husked rice terms) has been placed in storage than during the same period last year. Fujian Province overfulfilled early rice procurement quota by 22.3 percent, and Hubei by 20 percent. In Jingzhou Prefecture, Hubei Province, 397 commune member households sold the state 10,000 jin of early rice in a single season; and 4,415 production teams completed their purchase quotas for the entire year in a single season. Eight production brigades in Chuandian Commune in Jiangling County sold to the state more than 1 million jin of early rice in a single season.

This year the early rice in some prefectures sustained serious damage from the elements and cadres and commune members, working under the guidance of CPC committees and the People's Government at all levels, actively joined the struggle against disaster. They intensified late stage field care, reduced losses from disasters, and brought in a bumper early rice crop. Following the bumper harvest, acting on the principal of concurrent concern for the interests of the country, the collective, and individuals, the People's Government everywhere distributed state purchase quotas equitably. In reaping a bumper harvest, the broad masses of peasants did not forget the loving care shown by the party and the support provided by the country, and they used real actions to hail the victorious opening of the 12th Party Central Committee for a heartening situation of greater sales of surplus grain for greater contributions.

Everywhere business, supply and marketing, industrial and commercial administration, railway, communication and transportation departments actively worked together to make possible quick movement into storage of the early rice. Grain departments actively solved difficulties in selling grain and receiving grain. They used methods that provided convenience to the masses such as numerous individual households selling their grain directly for a preliminary change in the past passive situation.

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CONTAMINATION OF GRAIN IN TRANSIT WORSENS

Zhanjiang Port Major Offender

Beijing RENMIN RIBAO in Chinese 21 Sep 82 p 2

[Article by Transportation Management Department, Grain Storage and Transportation Bureau, Ministry of Commerce]

[Text] Recent grain shipments into Yunnan, Guizhou, and Guangxi have been seriously contaminated while being transported by railroad, and some shipments have been inedible.

In May this year, the Kunming Municipal Xishan Grain Transfer Station received 81 carloads of corn and wheat from Zhanjiang Port that had been shipped in cars 40 percent of which had not been swept out. On the floors of most cars were coal cinders and coal dust. On 17 May, the Guiyang Municipal Oil and Grain Storage and Transportation Company received a carload of wheat from Zhajiang in a car in which coal dust was 1 to 2 centimeters deep. Not only had the storage bags been blackened, but 158 jin of wheat spread inside the car had become black wheat. In cars containing a wheat shipment from Zhanjiang received by the Nanning Municipal Wheat Flour Mill there was quite a lot of coal ashes and gravel. Annually anywhere from several hundred to as much as 1,000 jin of grain is contaminated. Between January and June this year, the Zhanjiang Port Grain Transfer Station shipped 6,151 carloads of grain to Yunnan, Guizhou, Guangxi, and Hunan provinces, 5,100 of the cars used being open-top hopper cars, virtually none of which had been swept out. Sweeping of cars should be the responsibility of the unloading unit, but neither the port nor the railroad units care.

Contamination of grain by chemical fertilizer and pesticides is also very serious.

We cannot see the country sustain grain losses with indifference. I call upon the railroad, transportation, and grain sectors to solve the problem of grain contamination in transit with all possible speed.

Grain Shipment Contamination Analyzed

Beijing RENMIN RIBAO in Chinese 21 Sep 82 p 2

[Text] The problem of grain contamination while being shipped by rail is an old one that has not been solved for many years. Recently, the understanding of the situation that we got from railway departments is far more serious than the situation as we understood it from the Grain Storage and Transportation Bureau of the Ministry of Commerce. The soybeans, rice, wheat, and corn contaminated last year during rail shipment totaled 800 tons. During the first half of this year the amount increased to 1,420 tons. Some grain had urea and animal dung sticking to it, and some of it had a strange taste or had changed color and was inedible.

During the past several years, leadership comrades concerned in the State Council have held several meetings on this subject, and the Ministry of Commerce, the Ministry of Railways, and the Ministry of Transportation all have clear instructions about prevention of grain contamination. Nevertheless, numerous transportation departments and grain loading units have not conscientiously put them into effect.

Comrades in railroad freight transportation departments have said there are four reasons for grain contamination as follows:

One is failure to implement personal responsibility systems. Freight handling units charged with unloading of coal and chemical fertilizer do not sweep out the cars following unloading as regulations require, or when freight cars have been contaminated with strange smells, the railroad station makes no inspection and outgoing grain is loaded on the cars before they have been scrubbed down. Grain departments also frequently do not inspect in the way that regulations require. When they find cars do not meet specification, they neither make arrangements to change cars nor do they sweep them clean. Instead they put some bedding in them and load grain.

Secondly car disinfecting equipment is inadequate. According to regulations, when railroad cars have been contaminated by pesticides or other toxic materials or contain noxious odors, they must be scrubbed down and disinfected before being used. Today only 21 branch bureaus among the country's 60-odd railroad branch bureaus have places for scrubbing and disinfecting cars. Several such as Fengtai, which had disinfecting sites, closed down because of inability to handle polluted water and pollutants.

Third, is inability to assign cars specially to the hauling of toxic materials. According to regulations, special cars are to be used for the transportation of toxic materials, and after they have been used toxic materials cars are to be put in the custody of custody stations. In 1980, the Ministry of Railways assigned 2,000 cars specifically for the hauling of toxic materials, but most of them require major repairs. The number of cars used specifically for the hauling of toxic goods is small, and there is no fixed way of looking after them. When an urgent situation arises, they are still used indiscriminately.

Four, is poor quality of chemical fertilizer and pesticide containers. Nationally produced pesticides and chemical fertilizers are packed either in paper or plastic bags, the quality of which does not meet specifications. This plus "savage loading and unloading" means a very high breakage rate.

Some comrades suppose that the fundamental reason is that both the railroad and affiliated units pay attention only to quantity while ignoring transportation quality.

For many years the problem of grain contamination has received no serious attention. The danger it poses to the people's health cannot be expressed adequately in simple figures. It seems that the time has come for conscientious solution of this problem.

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NATIONAL SOIL FERTILITY TEST CENTER ESTABLISHED

Beijing ZHONGGUO NONGMIN BAO in Chinese 26 Sep 82 p 1

[Article: "China Sets Up Modern Soil Fertility Testing Center"]

[Text] A soil fertility testing center intended to serve national agricultural research and production was recently established in Beijing and has formally begun trial operation.

This testing center, whose structure covers a 5,100 square meter area, has been built on the grounds of the Chinese Academy of Agricultural Sciences' Soil Fertility Institute. It has modern large scale precision instruments and equipment, and uses electronic computer control and automated analysis. It is capable of analyzing and testing 100,000 samples annually in about 500,000 operations. This testing center was designed by using the method of importing foreign technology and principal equipment that was adapted and augmented in accordance with China's circumstances. This method was both suited to China's circumstances and saved a very large amount of funds. The investment required was half what it would have been had all equipment been imported.

This testing center is the first of nine major agricultural research facilities to be built. It is the third agricultural research base built following completion in May this year of the Hubei Provincial Academy of Agricultural Sciences' Testing Center and expansion of the Guangdong Provincial Academy of Agricultural Sciences' Paddy Rice Institute.

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CSO: 4007/27

USES OF AIRCRAFT IN AGRICULTURE OUTLINED

Beijing RENMIN RIBAO in Chinese 14 Oct 82 p 2

[Article: "Rapid Increase in Volume of China's Agricultural Air Operations"]

[Text] Since the Third Plenary Session of the 11th Party Central Committee, great development of China's agricultural aviation has taken place. A group of new tasks has been successfully undertaken, and year after year production flying hours have overfulfilled plan. During the past 3 years civil aircraft have carried out more than 80 operationsin more than 20 of the country's provinces, municipalities, and autonomous regions flying an accumulated more than 80,000 hours. Their farmland area of operationscovered more than 70 million mu; aerial afforestation and planting of grass covered a more than 28 million mu area; and more than 15,800 hours of flying was done for forest protection, a forest area of more than 800 million mu being patrolled annually. Number of hours flown for agriculture increased an average 79 percent over 1978, andin both 1980 and 1981 than 28,000 flying hours were logged for an all-time high.

Every year China's agriculture sustains fairly heavy losses as a result of disease, insect pests, weeds, and rodents. During the past 3 years, a 56 million mu area of farmlands, forests, grazing lands, and orchards has been aerially treated to control insects, effectively preventing and controlling damage from several tens of insect species including migratory indigenous locusts, voracious armyworms, destructive pine moths and suddenly occuring snout moth larvae.

During dry seasons, aircraft engaged in rain making for remarkable results in combat against drought to protect seedlings and to reduce danger of forest fires. During the past several years, annually more than 10 aircraft have carried out rain-making operations over 10 provinces, municipalities, and autonomous regions, rain-making sorties amounting to 70 percent of the total number of sorties for operations of all kinds. Rainfall increased by from 20 to 50 percent over an area of about 350,000 to 400,000 kilometers.

Use of aircraft to carry out leaf fertilization of crops and spraying of plant hormones has rapidly increased since 1979. In northeast, north, and east China, this has become a major way in which to increase yields for numerous state owned farms. Annually nearly 100 aircraft are engaged in such operations nationally over an operational area of more than 10 million mu.

Aerial sowing of seeds for afforestation has become a major way of greening remote barren mountains. During the past 3 years, the area sown has increased at an annual 74.6 percent rate over 1978. In addition to the continued large area sown in southwestern and south China, aerial sowing has also spread to south central, east, northwest, and northeast China.

Since 1979, experiments have been conducted in newly launched aerial sowing of pasture grass on barren mountains, barren plains, andgrassy slopes in 44 counties (or banners) in 16 provinces, municipalities, and autonomous regions including Hunan, Shaanxi, and Nei Monggol. As of the end of 1981, 50 aircraft had flown a total of more than 1,500 hours to sow more than 1.2 million mu of pasture grass for a full stand rate of about 50 percent.

In the field of aerial forest protection, as a result of the use since 1979 of helicopters to transport fire fighters on air drops to put out fires, and the use of AN-5 transports to carry fire-extinguishing chemcials, the discovery rate for fires and results in extinguishing fires have risen markedly.

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CSO: 4007/14

SPURT IN FRESHWATER FISH RAISING REPORTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 20 Sep 82 p 1

/Article: "Nation's Freshwater Fish Raising Continues Growth. More Than 540,000 Mu of Commodity Fish Bases Set Up by State; 1.8 Million Commune Member Households Raising Fish"/

/Text/ The country's rural raising of freshwater fish continues to grow. Statistics from 18 freshwater fish raising areas nationally show that during the first 8 months of this year, output totaled 568,000 tons, a 35,000 ton increase over the same period last year.

By way of meeting the struggle objective set by the Central Committee Secretariat for national production of between 4 and 5 million tons of freshwater fish by the end of the 1980's, this year all provinces, municipalities, and autonomous regions have effectively strengthened leadership of freshwater fish raising, treating it as a major matter in economic diversification whereby peasants can become prosperous with all possible speed, and solving problems with capital, skills, and food supply for raising fish. Yunnan Province has decided that beginning this year it will annually obligate 5 million yuan to development of freshwater fish raising. The Hunan Provincial CPC Committee has decided to revive and build aquatic products technical promotion stations in the province's 22 hill counties, and to increase personnel from 500 to 1,050. Many places have put into effect a system whereby 1 jin of feed grain is supplied for each jin of fish purchased.

In order to increase the water surfaces utilization rate and raise yields per unit of area, all jurisdictions have vigorously promoted new techniques for raising fish. Raising of fish in mesh cages has become popular and has spread fairly rapidly. Provincial and municipal statistics for June 1981 showed this method used on only 484 mu, but this increased to more than 1,400 mu this year. Quite a few places have promoted use of pellet feed for fish. Last year this was done on 3,100 mu in Shanghai, and the area has doubled this year. Yields have risen from the somewhat more than 400 jin per mu of the past to somewhat more than 1,000 jin, and to a maximum of somewhat more than 4,000 jin. Guizhou, Hunan, Hubei, Sizhuan, Jiangsu, and Guangxi provinces have revived and developed the raising of fish in paddy fields. Last year the paddy field area used for this purpose was 2.2 million mu; this year it has increased by another 200,000 mu.

All jurisdictions have continued to liberalize fishing industry policies and to further designate and clarify water surface use rights so that the country, collectives, and individuals will all benefit. This year's commodity fish bases built by the state that have gone into production cover 548,000 mu. Progress in local building of commodity fish bases has also accelerated everywhere. Raising of fish by commune member families has also grown rapidly. Last year households engaged in the raising of fish numbered 1.3 million nationally, but this year the number has grown to 1.8 million, and in quite a few communes and brigades every household is raising fish.

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CSO: 4007/23

FINAL TESTS OF NEW IMPROVED WINTER WHEAT VARIETY UNDER WAY

Beijing BEIJING RIBAO in Chinese 15 Sep 82 p 3

[Article: "Superior Winter Wheat Variety Jinghua No 1 Successfully Bred in Beijing. Hu Daofen [7579 6670 5358] and Others Work Hard at Breeding Using Haploid Breeding Method. Great Bumper Yield Potential; Fairly Broad Adaptability; Suited to Rapid Promotion From Existing Foundation"]

[Text] Jinghua No 1, the first rather good superior winter wheat variety suitable for production planted that has ever been bred in China or abroad using the haploid breeding method was declared a success following recent evaluation by Chinese experts concerned. This is the fruit of more than 6 years of arduous efforts on the part of assistant researcher Hu Daofen and others at the Crop Institute of the Beijing Municipal Academy of Agricultural Sciences. This year Jinghua No 1 was test planted at 18 experimental sites in Beijing's suburbs, an overwhelming majority of which produced high yields. Among them was the test planting on 3.16 mu at the Nanjanji Production Brigade where yields averaged 1022.4 jin per mu.

The work of breeding Jinghua No 1 began in 1976. Comrades engaged in the breeding used the pollen haploid breeding method. Four wheat varieties that included "Luofulin 18," "5328 - 036," and "Hongliang No 4" were aggregately hybridized, the pollen from the first generation resulting from the hybridization being cultured for successful harvesting of first generation seeds. In 1978, Hu Daofen and the others used the only 54 seeds they had to evaluate the plant line. As a result of their painstaking propagation, Jinghua No 1 increased gradually in numbers and the scope of experiments expanded year by year. In 1981 Jinghua No 1 participated in medium fertility group regional assessment tests of wheat varieties in Beijing where it took first place among 14 varieties in yield, yields averaging 705 jin per mu, 16.9 percent higher than for "Nongda 139." This year it participated in high fertility group regional assessment tests of wheat varieties in Hebei Province, where it produced highest yields, demonstrating this variety's adaptability when grown elsewhere. Not long ago at a national academic conference for exchange of experiences on wheat another culture and its genetic breeding, which was attended by the country's breeding specialists, an evaluation of Jinghua No 1 was made. They acknowledged the overall superiority of Jinghua No 1 variety, its tillering strength, its high spiking rate, the eveness of its spikes, its many blossoms and many grains, the light color of its grain, its strong disease resistance, its high resistance to powdery mildew, its high resistance to stalk, leaf, and stem rust, the semi-squatness and toughness of plants, its resistance to lodging, as well as its rather strong ability to withstand cold and hot dry winds. The experts agreed that this variety possesses high potential for bumper yields, that its adaptability is rather wide, and that demonstrations should be expanded on the basis of what has already been done, and promotion accelerated.

The successful breeding of Jinghua No 1 not only provides a better superior variety for future winter wheat production in Beijing's suburbs, but also opens a whole new avenue for scientific breeding work. Comrades who had a part in the breeding of Jinghua No 1 beleive that as compared with conventional breeding methods, breeding that uses the haploid breeding method is superior in that it can compress the breeding generations, improve selection efficiency, and conserve manpower and land. At the present time this is an advanced breeding method both in China and abroad.

On 7 August municipal departments concerned held a conference that called for a good job in breeding of Jinghua No 1. This fall the city plans to sow 7,000 mu of Jinghua No 1 wheat, and after a large quantity of superior variety seeds have been obtained, it will promote its large scale cultivation in Beijing's suburbs.

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ECONOMIC EFFICIENCY IN EXPANDED COTTON PRODUCTION

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 7, 1982 p 3-6]

[Article by Mei Fangquan [2734 2455 2938]: "A Discussion on Building Economic Efficiency in the Huanghai Plains Cotton Growing Region"]

[Text] The vast Huanghuaihai plains are the nation's largest production area for wheat, corn, cotton, peanusts, sesame and tobacco. The plains are located south of the Great Wall, north of the Huai river, and east of the Tai Hang and Yuxi mountains and include most of Beijing, Tianjin, most of Hebei province, most of Shandong province and the portions of Anhui and Jiangsu which lie north of the Huai river. The plains have a total area of 380 million mu, with 271 million mu of arable land, the land reclamation index is 70 percent and the agricultural population is 139 million people, with farmers occupying 1.95 mu of arable land per person. The present level of production is relatively low so there is great potential for increased production and there especially is a great future in development of cotton growing.

An Analysis of the Cotton Region's Economic Potential

In the mid 1950s, the Huanghuaihai plains were a relatively centralized cotton region, with over 30 percent of the arable land in most of the countries w.th concentrated cotton production given over to cotton fields, and with a few centralized counties having over 50 percent cotton fields. In 1956, cotton fields for the whole area stood at nearly 40 million mu, with total production reaching over 11 million dan, about 40 percent of total national production. For the next 20 years, not only were there great reductions in the cotton field acreage, for a long time the quantity and quality of production were stagnant and even declined. By 1979, the total cotton field acreage had declined to 25.6 million mu, ginned cotton production was only 9.04 million dan, 35 jin of cotton per mu, with a total pr2duction value of only 1.1 billion yuan.

In 1980, there was a great turnaround in cotton production. The entire area of 28 million mu of cotton fields had total output of 24 million dan, 85.7 jin per mu, an average increase of 1.7 times over the previous year. Far above the highest historical level. Total gross value, calculated for that year's standard prices, was 4.3 billion yuan, 3 times the previous year.

This brought great improvement to the lives and the production of the people of northeast Shandong, eastern Henan, and the plains north of the Huai river, so long subject to natural disasters and having low production levels.

According to the tentative plans made by the provinces and municipalities in this region, by 1985 the cotton fields for the entire region can be expanded to 50 million mu, occupying 20 percent of the arable land (40 percent in the Liaocheng area), with 100 jin of ginned cotton per mu and total ginned cotton production of 50 million dan. If this plan can be carried out there then will be great improvements in economic efficiency, as shown below:

(1) There will be full utilization of land resources, promotion of mutual progress for grains and cotton and increased production for both cotton and grains. This region has relatively abundant land resources, the land is level and basically is a plain at over 100 meters above sea level, the earth is thick strata, most of it is slightly alkaline tideland which is suitable for growing cotton and which, moreover, is suited to large-scale mechanized agriculture. The ratio of people to arable land is rather low, and the low-lying eastern plains have 2.28 mu of arable land per person. At present, the entire region has over 50 million mu of saline-alkali wasteland awaiting management and full utilization. Of this, there is 12 million mu of saline-alkali soil in northwestern Shandong alone which needs to be developed. If positive conditions can be created to make full use of this land, use the seed variety "Zhongmiansuo No 10," and implement a two-crop grain and cotton harvest system, then it will not be necessary to reduce the present grain field acreage and cotton can be used to accelerate grains and achieve both increased cotton and grain production. At present, the level of grain production in this region is still not high. The year 1979 yielded the highest level of foodgrain production, with 560 jin per mu of cultivated land, with 330 jin per mu of the sown area. If the area's acreage of cottonfields is expanded to 50 million mu, this not only will directly raise the current production level of 24 million dan to 50 million for the entire region, the overall production valuewill raise from the current production level of 24 million dan to 50 million for the entire region, the overall production value will raise from the current 4.3 billion yuan to 9 billion yuan. Moreover, there will be 11 billion jin of cottonseed oil, 8 jin per person. Each mu of cotton field can use 165 jin of cottonseed cakes, which will provide a 100 jin bonus of chemical fertilizer. The use of this fertilizer and the capital along with developments in animal husbandry will make it entirely possible to produce an additional 100 jin of grains per mou over the present production levels. In this way the region will have increased grain production of 20 billion jin. This not only will guarantee the continual increase of cash crops such as cotton, it moreover can make this region into a new community grain base for the nation.

(2) Because cotton production in China was stagnant for such a long time, there are contradictions between supply and demand so that every year, there is a need to import large amounts of raw cotton. In 1980 alone, there were 18 million dan of cotton imported, equal to one-third of the nation's total cotton production, at a cost of 1.7 billion US dollars of foreign exchange, This year, if this region does not produce nearly 15 million additional dan of ginned cotton, the state will then have to pay out another 1.4 billion

in foreign exchange to import even more raw cotton. If, by 1985, the 15 million mu of cotton fields in this region attain production of 100 jin of cotton per mu (total national production of 80 million dan of ginned cotton) we then will not have to import any cotton at all. Moreover, predictions show that there will be cotton goods exports which use up at least 20 million dan of cotton. According to current pricing for exports of cotton goods in the textile industry, this will produce an annual return of over 3 billion US dollars.

(3) Following the development of comprehensive utilization of the processing industry for agriculture and sideline products in the cotton growing region there can be processing of food products from cottonseed oil. The cottonseed shells can be used to raise mushrooms, tremella and glossy ganoderma. The cottonseed husks and the stems can be used to make synthetic fibers for rope and paper, stems can be pressed into fiberboard, stem cores can be used to make paper, and cotton phenol can be used in medicines. If the toxic elements in cottonseed kernels can be removed quickly enough, then 8 billion jin of cottonseed kernels can be used to make various high protein foodstuffs. This will greatly increase the economic income of people in cotton growing regions.

(4) After there are large increases in cotton production, there will be sufficient materials for the cotton ginning equipment and the nation's textile plants which can process 80 million dan of ginned cotton. With increases in high-grade textile products there will be rapid development of the clothing industry, which will provide employment for several million workers. Building a new textile production center in North China will bring basic changes to the Huanghuaihai plains where most areas have low production and suffer from national disasters. Moreover, this will bring about a new situation in our cotton production processing and textile industries and in the clothing industry.

The Promotion of Ecological and Economic Superiorities

The Huanghuaihai plains are ecologically and botanically the most suitable cotton growing region in China. Cotton growing in an ecologically suitable natural environment generally makes it easy to obtain the best results in production quantity and quality, and permits development of the superior natural ecological conditions found in that locale. And the presence of fine social, economic and technological conditions also permits full utilization of the region's superior conditions.

(1) Superior natural ecological conditions. This region has a relative abundance of light, temperature, water and land resources. First, it has 4,000-4,500 degrees centigrade [sic] of active accumulated temperature at 10 degrees centigrade, which clearly exceeds the requirements of intermediate maturing upland cotton; there are 175-220 frost-free days; the north cannot attain two harvests but the south does so easily. However, only slightly more than 10 percent of the cotton field acreage now has two harvests, so the productive season is not being fully utilized. Next, there are 2,200-2,900 hours of annual solar radiation and there is ample solar radiation in spring and cotton boll opening. However, at present, the utilization rate of solar energy

in an ordinary year is only 0.1-0.2 percent. Third, the annual rainfall is about 500-800 millimeters, the rainy and hot seasonsoccur together in summertime and meet the moisture requirements of cotton during the period of greatest growth and developments of cotton during the period of greatest growth and development. There is an uneven distribution of surface water and underground water, but the broad plains have conditions which generally permit the development of irrigation. The rivers and streams have a flow of about 120 billion cubic meters, more than 400 cubic meters per mu of arable land. There are about 40 billion cubic meters of supplemental underground water, about 150 cubic meters per mu. There are about 9 billion cubic meters of salt water. However, because of the low ratio of plant and forest cover there is only a short season for cover vegetation so that relatively large amounts of soil moisture evaporate and there is proportionately little benefit derived from this moisture. There is much runoff in the rainy season and very little water accumulation, so there is incomplete utilization of water resources. Because of the good light, temperature, water and land resources this region, early in the 1970s, it first began to reach ginned cotton production of 100 jin per mu, which was attained in Changwei prefecture of Shandong province, for example. Xinxiang county in Henan Province produced 140 jin of ginned cotton per mu and some brigades managed to produce as much as 150 jin per mu. Such evidence demonstrates that this region has great potential for the development of cotton production. Of course, there also are a number of disadvantageous natural factors. For example, there are frequent cool springs and early autumn frosts, there frequently are both spring drought and summer floods in the same year, and the summer rainfall is too concentrated, which causes many cotton bolls and buds to fall off. But experience in other regions shows that these problems can be solved by improved cultivation techniques.

(2) Superior social, economic and technological conditions. This region has at least 600 years of cotton growing history and as an old cotton region the cadres and masses therefore have long-term cotton growing experience. This region is located in the central plains with convenient transportation and communications. Between north and south there are the Beijing-Guangdong railway and the Beijing-Shanghai railway. Between east and west there is the railway from Gansu to the seaboard, ending at Lianyunjiang. Moreover, there is a network of public roads. The network for cotton purchase and processing extends throughout the entire cotton region and relies on cotton ginning capabilities of Hebei, Shandong and Henan. According to calculations, 45 million dan can be processed in 6 months. The textile mills of these three provinces have over 3.3 million spindles which can use up more than 12 million dan of raw cotton per year. During the past two years, total cotton production did not reach 10 million dan, which led to shipments of cotton from south to north and incomplete use of the cotton ginning and weaving capacity. If cotton planting for the entire region reaches 50 million mu, it will then be possible to utilize the above-mentioned superiorities.

A Path for Implementing Economic Growth

In order to fully develop the natural ecological economic and technological superiorities of the Huanghuaihai plains and struggle to implement the plan for economic growth in the expanded cotton region it is necessary to carry out the following tasks.

(1) Hasten the transformation from one harvest to two harvests and implement crop rotation of wheat, oils and green manure. For the last 10 years, 15 percent of the cotton fields in this region have had a two harvest system of wheat (oils) and cotton, and Shijiazhuang prefecture in Hebei reached 80 percent. In Henau, the prefectures of Zhoukou and Xinxiang reached 40 percent. The improved variety "Zongmiansuo No 10" has provided new conditions for implementing two successive crops or interplanting of wheat (oil or green manure) and cotton. Ongoing large-scale experimental planting demonstrates that planting successive crops of "Zhongmiansuo No 10" and wheat can produce over 500 jin of wheat and over 100 jin of ginned cotton per mu per year. The whole region has 50 million mu of cotton fields, so if 25 million mu have interplanting or continuous cropping of cotton and wheat, 15 million mu have successive crops of green manure and cotton and 10 million mu have successive crops of oil and cotton there will be obvious results in the use and nuturing of the land and in advancing all-round abundance of grains, cotton and oils.

(2) Improvement of the cotton region ecological system and raise the standard of natural energy transfer. Because this cotton region has not developed forestry, animal husbandry, green manure and legumes there is less than 7 percent forest cover, the utilization rate for agricultural resources transformation is very low, there is a decline in the production increases of chemical fertilizers, and the level of materials recycling for nitrogen was only 7-10 jin per mu. From now on, there must be strong improvements in this system's structure and capabilities, there must be energetic afforestation, construction of protective windbreaks for farm fields, implementation of forest and field intercropping, improvement of the farm field microclimate and provision of the "three supplies" (fuel supply, manure supply and fodder supply), and coordinated development of animal husbandry. At the same time, with the day-by-day development of agricultural and industrial production and the daily increasing shortages of water resources there is a need to implement coordinated water storage, irrigation and control of underground water levels and improvement of water use efficiency.

(3) Comprehensive management of low production fields and complete utilization of saline-alkali wasteland. The majority of fields in this region are low or intermediate-yield fields. There are nearly 50 million mu of saline-alkali land, manure and water conditions are poor and comprehensive handling must be exercised. There must be development of well irrigation and well drainage to reduce water salinity. Use of Huangho water for irrigation also requires drainage, and promotion of agricultural techniques for dryland crops will economize on water. Widescale planting of gree manure and legumes will nourish the land and improve the soil.

(4) Cotton field distribution requires a suitable and quick solution for the excessively scattered current arrangement. Most cotton producing counties in this region have less than 100,000 acres of cotton, with a commodity rate of only 88 percent. Within the counties the cotton fields are also extremely scattered, so that it seems as if each individual county, commune and brigade were engaged in cotton growing. From now on there must be emphasis on constructing 80 counties of over 300,000 mu which emphasize cotton production, and there should be reductions of cotton producing counties haveing less than 50,000 mu. There should be rapid and suitable centralization of cotton fields in cotton producing counties.

(5) There must be rapid reform of the current cotton producing technology and the formation of a production technology system having increased production, stable production, superior quality and low waste. First, there must be simplified measures for cotton growing and through comparison of those which do not increase production efficiency or which are only slightly efficient but which use up large amounts of labor and capital must be eliminated. The labor force savings can be expended on cotton field basic construction or on diversification and thus bring about development of cotton field production. Second, the improved varieties must be popularized and the system of breeding the improved varieties should be perfected. These improved varieties must undergo strict regional testing and quality evaluation. There must be a search for a variety of suitable production systems and distribution systems for the improved varieties. Third, there must be firm support of comprehensive prevention of cotton diseases and pests. The process of building an ecologically balanced system for the cotton region must include development of resistant varieties, development of biological prevention and cure, and formulation of high efficiency, low toxicity new pesticides with a suitable period of effectiveness. Fourth, there must be gradual development of mechanized cultivation suitable for the cotton fields of the region, gradual research and formulation of cotton field machinery suitable for the system and special features of cultivation and crop growing in this region, and attention must be given to the suitability of machinery for cultivation techniques. We must do a good job of equipping the presently used farm tools.

(6) Establishment of a Huanghuaihai cotton research center, organization of research on key problems and establishment of a complete technology distribution center. The Huanghuaihai cotton region ought to establish an all-China cotton research center and individual provincial cotton (cash crops) institutes, as well as cotton research organizations in all cotton growing prefectures and counties. There must also be attention to cooperation in the division of labor, avoidance of all unnecessary duplication and waste, improvement of research efficiency and more publication of research results. All levels of agricultural departments and research organizations in the cotton region should establish complete technology distribution organs and form a structured network of technology distribution in order to guarantee the efficient spreading of the results of cotton-related science and technology.

11582
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PERFORMANCE REPORT PROVIDED ON NEW HYBRID COTTON VARIETY

Beijing ZHONGGUO NONGMIN BAO in Chinese 30 Sep 82 p 1

/Article: "'Zhongmiansuo No 10" Cotton Much Accepted by Huang and Huai River Area Cotton Farmers; Bumper Yields, Early Maturity, Superior Quality; Continuous Cropping of Wheat and Cotton for Two Crops in A Single Year"/

/Text/ A new cotton variety bred by the Cotton Institute of the Chinese Academy of Agricultural Sciences, "Zhongmiansuo No 10" has shown heartening results in test plantings in cotton growing areas of the Huang, Huai, and Hai river areas during the past several years.

Natural conditions on the Huang-Huai-Hai Plain lend themselves to the growing of cotton and wheat; however, since the frost-free period is faily short, only a single crop a year can be grown on an overwhelming majority of the cultivated land, and wheat and cotton compete rather heavily for the same land. The broad masses of people have hoped for new varieties of early ripening cotton and wheat to permit continuous cropping of wheat and cotton for two crops in a single year and bumper harvests from both.

By way of satisfying the demands of the broad masses of people, beginning in 1975, the Cotton Institute of the Chinese Academy of Agricultural Sciences used "Heishanmian No 1" as its basic material in two breedings, which produced a long fiber, bumper yield, superior variety, natural mutant strain, which was bred to become the early maturing "Zhongmiansuo No 10," which produces bumper yields and fairly good quality fiber cotton. For 3 years in a row from 1979 to 1981, this new variety had a part in regional experiments on varieties suited to a changed farming system in the Huang He basin where it was a frontrunner in both quantity and quality. Last year it was test planted on an area of almost 10,000 mu where wheat and rape had been preceding crops at 22 pilot projects in six provinces including Henen, Hebei, Shandong, Shanxi, Shaanxi, and Jiangsu. It produced yields of about 100 jin per mu where previous crop wheat yields had been 500-600 jin per mu. On the 320,000 mu on which its cultivation has been promoted this year, as of now, in an overwhelming majority of areas, cotton bolls have hung in clusters, growth has been heartening, and a bumper harvest is in prospect. In Linyi County in Shandong Province, where it has been promoted over the widest area, "Zhongmiansuo No 10" was sown in the summer on 100,000 mu. Though it encountered severe drought during the early stages, and though rainfall was concentrated in the middle stages, the cotton still grew better than last year.

Forecasts call for 105 jin per mu of ginned cotton (where the preceding crop had been wheat producing 359 jin per mu). Forecasts also call for the harvest of an additional 35.9 million jin of wheat and increased earnings of 9.8 million yuan as a result of the continuous cropping of both wheat and cotton on these 100,000 mu in the country instead of planting only spring cotton. As a result of the steady increase in the area continuously cropped to wheat and cotton, in many areas both total output of grain and wheat and average per capita distribution have increased rather remarkably. The broad masses of cotton farmers say happily, "A crop of wheat and a crop of cotton; it is white flour we eat; we have money in the bank, and life gets better and better!" In the cotton growing regions of the Huang and the Huai a craze for the growing of "Zhongmiansuo No 10" has taken place, and it is predicted that next year from 5 to 10 million mu of it will be grown.

At a national "Zhongmiansuo No 10" on-site conference held in late September, cotton scientists and technicians from all over the country, leaders concerned, and peasant representatives observed and studied the "Zhongmiansuo No 10" production situation in the four counties of Linyi, Juye, Qufu, and Yanzhou in Shandong Province. They summarized and exchanged experience, explored the impact on the agricultural economic structure of the Huang-Huai-Hai cotton growing regions of this vareity, and the value it should have for China's agricultural production. The conference unanimously agreed that "Zhongmiansuo No 10" is a rather good breakthrough variety that China has bred; that it tolerates waterlogging, tolerates salinity and alkalinity, and is strongly adaptable. In particular, its growing season is about 30 days less than for spring sown cotton in general, and when planted in tandem with correspondingly early maturing wheat varieties and rotationally cropped, two crops a year will be possible on the Huang-Huai-Hai Plain, and this will help solve the competition for land between grain and cotton. Nevertheless, it is prone to fusarium wilt, and it should not be grown in fusarium wilt areas. In promoting it to large area cultivation, all jurisdictions should pay attention to purification and rejuvenation of the variety, and do a good job of seed selection and seed retention work.

9432
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NATIONAL COTTON OUTPUT, PROCUREMENT PROSPECTS AT ALL-TIME HIGH

Beijing ZHONGGUO NONGMIN BAO in Chinese 30 Sep 82 p 1

[Article: "More Than 2.5 Million Dan of Ginned Cotton Procured Nationally; Prospects That This Year's Procurement Will Again Reach All-Time High"]

[Text] Ever since the Third Plenary Session of the 11th Party Central Committee, China's cotton production situation has become better year by year. The more than 86 million mu area sown to cotton this year is 8.7 million mu more than last year, and the highest year since the 1960's. During July and August many cotton growing areas had long overcast and rainy periods, and some were even stricken with hailstones and typhoons, which hurt blossoming and boll formation. However, thanks to the steady implementation and perfection of production responsibility systems, cotton farmers actively worked to prevent and combat disasters, thereby reducing losses. If no exceptionally large disasters occur from now on, prospects are that this year's cotton procurement will reach an all-time high. Statistics as of 20 September show more than 2.5 million dan of ginned cotton as having been procured nationally, more than 1.3 million dan in Shandong Province, and 5.4 million dan in Hebei, more than 500,000 more in each case than during the same period last year. Spurred on by the spirit of the 12th Party Central Committee, the broad masses of cadres and people in cotton growing areas eagerly sold more and better cotton to the state following harvesting of a bumper crop. Cotton procurement departments everywhere are now in processing of doing a good job of sales organization work, setting up sales points in designated areas, arranging allocation times, weighing several times amounts taken in, establishing more windows for settling accounts, and such matters to achieve proportional sales by production teams, work teams, and households against vouchers.

9432
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SUCCESS REPORTED IN REMOTE HYBRIDIZATION OF NAKED OATS

Beijing GUANGMING RIBAO in Chinese 23 Sep 82 p 1

[Article: "Middle-age Agricultural Researcher Li Chengxiong [2621 2052 7160] Wins Honor for Yanbei People by Breeding China's First Remotely Hybridized New Naked Oats Variety; Yields of 550 Jin Per Mu, About a 10-Fold Increase Over Local Traditional Varieties"]

[Text] Forty-three year old agricultural researcher, Li Chengxiong, has bred China's first remotely hybridized new naked oats variety, multiple spike naked oats. Yields are 550 jin per mu, which is about 10 times that of local conventional varieties. Recently Li Chengxiong has been hailed as a model science and technology worker in Yanbei Prefecture, Shanxi Province.

Li Chengxiong is an assistant researcher in the Frigid Region Crop Institute of the Shanxi Provincial Academy of Agricultural Sciences, and director of its naked oats research office. Following graduation from agricultural technical training school in 1961, he was assigned to this institute to do naked oats breeding work. Oats tolerates infertile soil, is drought resistant, is rich in nutrients, releases large amounts of calories, and contains more fat, protein, calcium, iron, and riboflavin than both husked rice and wheat flour. It is "a treasure" of the people of Yanbei. Yields were only 35 jin per mu, so in order to breed a high yield superior variety of naked oats for the benefit of the people of Yanbei, Li Chengxiong took several years time and visited almost 100 production teams in the naked oats growing region to collect large quantities of breeding materials. It was from peasant varieties that he selected several high yield varieties. In 1964 he began the work of crossing naked oats varieties, but his experiments did not earn the serious attention of leaders, the experiments were very poor, and he had no workers to help him. He had more work than he could do, so he often had his wife and son help. In this way he overcame great difficulties, finally breeding hybrid variety "Yanhong No I-14" in 1979 with yields about double those of old varieties. This won him a second prize for accomplishments from the Shanxi Academy of Agricultural Sciences.

In the early 1970's, Li Chengxiong spotted a mutant plant with dense spikes, numerous pods, and numerous grains from an atomically radiated variety. He analyzed the main reasons for low naked oats yields as being spread out spikes, few pods or grains, and a not high weight per thousand grains. Were he able to breed spikes like those on the mutant, high yields would be possible. In order to get more good mutant plants, he began to collect plants in six provinces and autonomous regions including Hebei, Nei Monggol, Gasu, and Ningxia. The result was collection of only somewhat more than 70 mutant plants of pi [4122] oats. Pi oats and naked oats are of different species, but Li Chengxiong discovered that they had identical numbers of chromosomes and he thought to himself that if successfully hybridized, a high yield variety might be bred. Li Chengxiong thereupon began breeding work on the remote hybridization of naked oats. At first the hybridized plants would not set grain, and later after setting grain, they became mongrelized. After repeated failures, a comrade who was working on the experiments with him lost confidnece. But Li Chengxiong remained steadfast. Since the two set grains following crossing, there was hope. During the season for sowing in 1974, Li Chengxiong had to go to hospital for surgery to remove a large growth on his back. He was afraid he would miss the sowing season, so before his wound had healed he hobbled off on crutches, his back bent, to the experimental ground. This year a distinctive oats plant with dense spikes and numerous pods grew in the experimental ground, and Li Chengxiong was captivated by this oats plant. As expected, he collected more than 180 grains of pure naked oats seeds from this distinctive plant. He was tickled pink and quickly ran to the institute's CPC committee secretary and said, "Distant hybridization has succeeded." Later on this new naked oats variety was experimentally grown in Shanxi, Nei Monggol, and Hebei with results in yields averaging 550 jin per mu with some as high as 675 jin. Cadres and masses said that Li Chengxiong did meritorious service for the people of Yanbei. This year both Yanbei and Xinxian Prefectures have promoted this variety of naked oats to cultivation on more than 100,000 mu where mostly it is growing very well and may produce an all-time high output. Now Li Chengxiong is busy writing pertinent chapters in China's first book on "Chinese Naked Oats."

9432
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RURAL ECONOMIES URGED TO BLAZE NEW TRAILS IN ECONOMIC DIVERSIFICATION

Beijing ZHONGGUO NONGMIN BAO in Chinese 23 Sep 82 p 1

[Article by commentator: "Break Through the Old Rigamarole To Study New Problems"]

[Text] Today rural villages have fairly generally established responsibility systems linked to output. After most basic accounting units have instituted "double contracting" [contracting with individual households for task completion and output quotas], in particular, what is to be done in the case of existing collective enterprises? How are the newly emerging associations among the masses to be regarded? This is a new problem about which people are concerned. Comrade Hu Yaobang, in his report to the 12th party Central Committee titled, "The New Situation in All-Around Initiation of Socialist Modern Construction" made an extremely important exposition of this problem. After pointing out the basic principle that "in rural villages, the cooperative economy of collective ownership by the working people is the principal economic form," he particularly stressed that "development of the agricultural economy and improvement in peasant capabilities to administer and manage, will inevitably pose new demands for associated operations of all kinds." We should promote diverse forms of economic association genuinely on the principles of benefits to production and voluntary participation for mutual benefit.

China's agriculture has to take the path of economic diversification. Development of economic diversification requires encouraging the country, collectives, and individual commune members to rise together. This is the correct program and policy formulated by our party so that the 800 million peasants will become prosperous with all possible speed. China's commune and brigade enterprises are a force that is not to be ignored. Today they hold more than 50 billion yuan of property, employ more than 30 million people engaged part time in industry and part time in farming, and have an annual output value of more than 70 billion yuan. They play a very important role in the employment of surplus workforces, in enlivening the rural economy, in assisting national construction, and in increasing peasant income. In the process of their development, commune and brigade enterprises experienced problems in rash action, blind building of plants, poor management, and not very high benefits. Through future reorganization, these problems can be solved for healthy development of the enterprises. Development of rural collective enterprises has also been fettered by some old rigamarole. Formerly many people believed that only communes and brigades could run enterprises and that production teams could not do so, much less commune members.

However, since the 3d Plenum of the 11th Party Central Committee, changes in the rural situation have broken through this old rigamarole. Facts have shown that not all communes and brigades necessarily have conditions requisite to the running of enterprises, and that enterprises do not necessarily have to be run by communes or brigades. To meet the needs of the development of production, specialized households, multiple occupation households, and all kinds of new economically associated groups have gradually begun to grow. Collective enterprises operated by persons adept at administration and possessed of skills in conjunction with workers can equally play a positive role in development of production. We should thoroughly investigate and study these new associated enterprises, diligently summarize their experiences, and help their healthy development genuinely in accordance with the principles of advantages for production and voluntary participation and mutual benefit. Structure of a socialist agricultural economy has to be diverse. Only in this way can more rapid development of socialist productivity be advanced so that the superiority of the socialist system is brought into full play. While actively fostering commune member household sideline occupations, we should strive to operate various kinds of cooperative enterpries collectively owned by rural working people.

A look at the development of rural economic diversification shows that in the development of these enterprises it is necessary to take into consideration local skills, the economy, transportation, markets, and such conditions, and to consider in combination the problems of supply, production, and marketing. Just what provisions are made will depend on local realities. Conditions vary from place to place, and many types of enterprises may come into being. In areas close to large cities or near certain developed areas, conditions exist for the operation of some labor-intensive industrial enterprise to serve large industry. In most places, however, economic diversification will consist of farming, livestock raising, or processing. Right now some circumstances merit attention, such as the following: Everywhere today households specializing in the raising of livestock need others to help them solve problems in producing young animals, livestock feeds, technical guidance, and marketing of products. Once products of the livestock breeding industry have become more numerous, some will require local processing and storage followed by continuous marketing elsewhere. If some products cannot be sold, it may not be for lack of demand, but because they cannot be transported elsewhere. To solve these problems, the state will have to make plans and collectives will have to get to work. Operation of some young animal farms, livestock feed processing plants, farm product processing plants, technical service stations, marketing outlets and storage and transportation departments under guidance of state economic plans and through the use of collective strength fits in with needs. Where existing commune and brigade forces cannot solve the problems, commune members may organize to pool funds to conduct activities. When a single unit or a single place cannot solve the problems, it may associate with other units or other places in joint efforts toward solutions. Where grassroots cannot solve the problems, leadership organizations above the county level should organize the necessary cooperation. Pilot projects may be used to solve these kinds of problems, to gain experiences, to work out a rational structure, and to move economic diversification gradually toward specialization and socialization.

Breaking through old rigamaroles to study new problems, use of pilot projects to gain experiences, and making collective enterprise avenues ever wider so that the rural economy will become ever more lively are major problems in continued development of the very fine rural situation.

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CHANGES IN CHRONICALLY DEPRESSED COUNTY ECONOMIES REPORTED

Beijing RENMIN RIBAO in Chinese 16 Oct 82 p 2

[Article: "Appearance of a New Outlook Caused by Initial Tapping of Potentials--Notes on the Changes in the Ten Chronically Backward Counties in Anhui Province--On All-Out Efforts to Develop a Diversified Economy, Spurred by Party Policies"]

[Text] In terms of time, 3 years is only one-tenth of 30 years, but in the n0 notorious chronically backward counties of Anhui Province, increase in production figures for the 3 year period from 1979 to 1981 was greater than for the 30 year period from 1949 to 1978. Statistics show a 1981 increase in grain output of 2.239 billion jin over 1978, and an increase of only 1.317 billion in the grain output in 1978 over 1949; a 300 million jin increase in oil bearing crops in 1981 as compared with 1978, and only a 36 million jin increase in oil bearing crops in 1978 as compared with 1949. Average per capita increase in income for 1978 was about 40 yuan greater than in 1949, while the increase was 152.40 yuan in 1981 as compared with 1978.

The 10 counties in this chronically poverty stricken area are Si County, and Wuhe, Lingbi, Guzhen, Dingyuan, Fengyang, Jiashan, Xuancheng, Langqi, and Guangde counties. They are located on the Huaibei Plain, the hill region of the Chang Jiang and Huai Jiang, and in the mountain region of southern Anhui. They contain a 5.55 million population and 10.89 million mu of cultivated land. Since the Third Plenary Session of the 11th Party Central Committee, these 10 poor counties have made great strides in catching up, and half of them have vaulted into the ranks of the province's advanced counties.

Heartening Reports from "Beggar Villages"

In May this year, Anhui Provincial CPC Committee secretary, Wang Guangyu [3769 0342 1342] received a letter from a Huaibei rgral village. On opening it he found that it contained a heartening report mailed by commune member Chen Yuzhi [3769 3768 5347] at Huangzhuang Proeuction Team, Huangzhuang Production Brigade, Maoqiao Commune, in Guzhen County. It reported three heartening situations to him. First was the harvest last year of 10,000 jin of grain for economic income of 5,000 yuan. Second was the building of four new tile-roof houses. Third was that her three sons had become engaged to be married. Chen Yuzhi had owned the house in which Wong had stayed 15 years previously when he had been sent down to the countryside to toil, and it had been in her house that he had eaten and lived. At that time Xiaohuangzhuang had been a "poverty-stricken beggar village" where no one ate wheat flour or rice or lived in a tile-roof house. Now upon learning that sguch great changes had taken place for Chen Yuzhi's family, he was really excited.

On 14 August on this way back from attending the Seventh Plenary Session in Beijing, before arriving at Hefei, he got off the train in Guzhen specifically for the purpose of going to Xiaohuangzhuang to visit the country relatives he had not seen for many years. No sooner had he entered the village when commune member Chen Yuzhi, her faced wreathed in smiles, welcomed him to her home. Chen Yuzhi said, "Today is greatly different than 15 years ago! It would have been impossible then forme to have given you a steamed white bread. But now everybody has white steamed bread to eat, and every household has grain on hand. My family has the equivalent of more than 1,000 jin of wheat per person this year, and not only will we be unable to eat that much, but we worry about not being able to sell it!" The production brigade secretary also interjected, "These 3 years have brought rice and wheat flour to eat, the building of tile-roof houses, and each year has been better than the previous one! We used to lack food, not have enough to wear, and go begging, but now every family makes a contribution. Last year this production team contributed more than 30,000 jin of grain to the state. For wheat alone, each person sold an average of 250 jin, more grain than they had harvested 3 years earlier!"

The changes that had taken placed in Xiaohuangzhuang were a microcosm of the changes that had taken place in countless "beggar villages" in the 10 poor counties. Guxhen County, in which this village was located, had been the poorest of all the 10 poor counties. In the 13 years between the establishment of the county in 1965 and 1978, its people had eaten a total of 124 million jin of grain sold back to them by the state, and many peasants had been unable for a long time to break out of their poverty stricken situation of "planting in spring, harvesting in fall, and fleeing from famine in winter, sweet potatoes being their staple food." During the past 3 years, not only has the problem of sufficient warm clothers to wear and food to eat for the masses been solved, but with a single leap the county has gone from being the one that ate the most grain sold back to it by the state to an advanced one that made an annual contribution of 174 million jin of grain to the state, each person init providing more than 600 jin of commodity grain. A 60-year old commune member named Ou Mingxian [0575 2494 6513], who everyone calls "Old Grouch," lives in Ouxi Production Team in Aingliang Production Brigade, Qingliang Commune. After institution of "large scale contracting of full responsibility for completion of work tasks," the party's policies made him a little more open-minded and widened his thinking horizons. Last year his family of four sold the state 15,000 jin of grain, 7,000 jin of which was wheat. This summer his family harvested 14,000 jin of wheat, and he sold the state 10,000 jin in a single season.

"Airport" Removal

Pronounced characteristics of the 10 poor counties are small population relative to available land and great potential. Three years ago when the correspondent passed through Dingyuan, Fengyang, and Jiashan counties, it was possible to see large flat areas of wasteland at any time where no crops but only weeds grew. In some places there was more than 1,000 mu of such land extending far off into the distance like the broad runways on which aircraft take off and land. Consequently, the local people called this stretch of wasteland "the airport."

Today, one after another, high yield models have taken off from this "airport," and no longer does a barren vista loom before one, but rather a boundless tract of golden paddy rice, and glossy green peanut, soybean, and sesame crops. A comrade in charge at the Dingyuan County CPC Committee told the correspondent that the county use to have 200,000 mu of big and small "airports," that had turned into "granaries" during the past 2 years, providing more than 80 million jin of commodity grain and oil-bearing crops to the state annually and creating considerable wealth. As peasant levels of scientific farming increase, the potential of the "airfields" has become greater!

"From a burden to wealth has been the result of 'contracting'". With no campaigns that shake up people, elimination of "eating out of a large common pot," institution of large scale contracting of full responsibility for completion of work tasks, county CPC committee diligent implementation of specific regulations pertaining to unworked wastelands, "four-besides land" (beside homes, beside roads, beside rivers, and beside mountains) with ownership going to whomever develops them, and those who do the planting getting the harvest, suddenly commune member enthusiasm for production has been aroused.

In the course of our visit to Dingyuan County's rural villages, we heard numerous moving stories about the development of the "airports." At Xiapang Production Team in Gengxiang Production Brigade, Gengxiang Commune, the heads of 11 households served as production team leaders, which meant they were unable to give full attention to their fields and yields declined, leaving behind an "airport" each year. In many years yields from then were only about 100 jin per mu and wheat rations did not amount to much. Up until 1978 total annual grain output was no more than 30,000 jin. In 1979, old brigade leader Liu Jiasheng [0491 1367 0524], who had been forced to step down on several occasions, resumed his responsibility for the entire production team, instituted the contracting of output to individual households, and rallied everyone to march on the "airports." Quite a few commune members were apprehensive and were slow to act. He thereupon both publicized the party's policies and took the lead in being an example. He led his family of seven in farming the land for which it had contracted while at the same time reclaiming for cultivation 15 mu of wasteland, which they planted to fennel, sweet potatoes, paddy rice, and soybeans. At his urging commune members in the production team opened to cultivation more than 200 mu of "airports" within 3 years, harvesting more than 60,000 jin of grain from these lands alone. This was twice the brigade's total grain output in 1978.

Commune members said, "the land has changed much; the soil has become more fertile; people work harder, so how could there by anything but increase in production!" Last year the brigade's grain output vaulted from the 30,000 jin of 1978 to 183,000 jin, an output averaging 16,600 jin per household. Economic diversification also advanced very rapidly with annual per capita net income increasing from somewhat more than 50 yuan 3 years previously to somewhat more than 500 yuan. The masses happily sang, "Xiapang, Xiapang, where granaries are full of grain and ponds full of fish, where people have new clothes to wear and new houses to live in."

There were more places in Dingyuan County like Xiapang. In 3 years agriculture throughout the county made three giant strides. Grain output increased by 100 million jin in a year, output going from 440 million jin in 1978 to 750 million jin, and gross output of oil-bearing crops shot up from somewhat more than 20 million jin to somewhat more than 80 million jin for a manifold increase in contributions to the country. In 1980 the county used "households with an output of 10,000 jin of grain" as the standard for selection of "outstanding households" that had become wealthy through labor, but in 1981 the criterion for participation in the countrywide "outstanding household" conference was changed to "households who had sold 10,000 jin of grain." This change was made because in that year the number of households that produced 10,000 jin of grain shot up from the somewhat more than 300 of the previous year to more than 10,000!

In the other nine poor counties, the situation was very much the same. In 1979, "10,000 jin of grain households" were scarcer than hens teeth in these 10 counties, but by last year there wer more than 10,000 of them!

More to be Done About "More"

Following the Third Plenary Session of the 11th Party Central Committee, "leftist" influence was swept away and people in mountain regions removed their shackles. County CPC committees in Xuan, Lang, and Guang counties in the mountain region of southern Anhui Province shifted the focus of work in the mountain region from the former sole emphasis on grain to development of forestry and economic diversification. As a result, the mountain region gradually began to come alive.

Xuancheng County proceeded from realities in an adaptation of general methods to the local situation to built 10 economic diversification bases for forestry and tea, honey dates, tung oil trees, silkworm mulberry, Chinese herbal medicines, fish raising, etc. In addition it gave energetic encouragement to commune members to use the space in front of and beyond their houses as well as privately retained mountains and private plots to develop the "10 smalls," i.e., small wooded groves, small orchards, small tea farms, small mulberry groves, small fish ponds, small plant nurseries, small tung oil groves, small plaiting plants, and small livestock farms. Xiting Production Brigade in Yingliu Commune in this county used the "four besides" to develop small woodlands where it planted 150,000 trees of various kinds, or an average of somewhat more than 1,100 trees per household. In Langqi County, the number of households specializing in various aspects of the breeding industry alone have grown to more than 8,900, or 16.5 percent of the total number of peasant households in the county. In Yejia Production Team in Daji Production Brigade, Dongxia Commune, duck raising hand, Ye Shengxu [0673 3932 1331] who was criticized for raising ducks 10 years ago, last year raised 170 ducks in sheds with the encouragement and support of leaders at all levels, and sold 3,400 jin of duck eggs to the state for a net income of more than 3,800 yuan to become a famous household in the county that prospered by working. On two occasions, he had the honor attending county and provincial meetings of delegates advanced in economic diversification.

Party policies have been like a golden key that has opened the main door to prosperity in mountain regions. Sihe Commune in Guangde County is a prominent example. Three years ago this commune was still fairly poor. Since 1979, however, the commune CPC committee shifted the focus from sole attention to farmlands to mountains where it began afforestration in vigorous development of economic diversification. Within the period of 3 years, the commune afforested 50,000 mu of barren mountains, planted more than 1,600 mu of economic forests of silkworm mulberry, chestnut, and tung oil trees, more than 500,000 lacquer trees, and more than 4,000 mu of round bamboo. Last year the commune produced 6,000 dan of chestnuts, selling 5,500 dan or half the amount purchased from the county, to the state, becoming famed as a "land of chestnuts." In 1179 and in 1981, this commune used its advantages in having large numbers of silkworm cocoons nd a large workforce to build a textile plant and a filature mill, making the raising of silkworms, the reeling of silk, and weaving of cloth a continuous process. Since last year the textile plant has produced 200,000 soft solk quilt covers in satin weave, which are enjoying sales in Tianjin, Shanghai, and elsewhere. In addition, in the past 3 years it has used local resources to run a food products plant, a large tile plant, a lace industrial arts plant, and a fluorspar mine as part of 20 commune operated enterprises. It has started construction of a reservoir with a water storage capacity of nearly 4 million cubic meters, and has built 20 small hydropower stations so that almost one-half of the commune's wetlands are unaffected by waterlogging or drought, and more than 60 percent of production teams and commune members have electricity. Last year the commune's gross income from economic diversification amounted to 4.75 million yuan, three times that of 1978. Income from economic diversification as a proportion of gross income from agriculture rose from 30 percent to 70 percent, and commune member average per capita income increased from 100 yuan to 311 yuan. Now Sihe Commune has become a thriving new socialist mountain village where the mountains are green and the water clear. It has blazed a new trail toward prosperity for the mountain regions of southern Anhui.

Heartening changes have taken place during the past 3 years in the appearance of the mountain region in Xuancheng, Langqi, and Guangde counties where farming, forestry, livestock raising, sideline occupations, and fisheries mutually support each other for a fine situation of comprehensive development. Comparison of last year with 1978 shows total grain output in the three counties to have increased 30 percent, and income from economic diversification to have more than doubled, total earnings from economic diversification as a proportion of total earnings from agriculture having risen from 40 to 54 percent, and average per capita commune member earnings having increased from 105 yuan to more than 240 yuan.

Now, the people of these 10 counties, given encouragement by the 12th Party Central Committee, are writing a new chapter in the building of new rural villages and becoming prosperous through labor.

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PROBLEMS, PROSPECTS IN RURAL PREFECTURE IN ANHUI SCRUTINIZED

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[Article by Chinese Rural Development Problem Study Team: "Several New Problems in Rural Development--A Survey of Rural Villages in Chuxian Prefecture, Anhui Province Following 'Double Contracting to Households'"]

[Text] Editor's Note: This article is a survey report on rural villages in Chuxian Prefecture, Anhui Province. This survey report makes clear that establishment of production responsibility systems of "double contracts" with households [contracting for fixed output quotas from households and contracting responsibility for full task completion with households], stirred peasant enthusiasm for production to an extreme extent, but also posed numerous new problems requiring solution.

This article emphasizes exploration of several problems including grain production, land contracting, the gap between poverty and riches, the direction of flow of workforces and funds, new cooperative associations, the functional structure of the rural economy, and rural grassroots cadres. The author believes that study of these new problems and new trends in rural development hold major theoretical and practical significance for understanding the orientation of rural economic development, and for further development of a very fine rural situation so that reform of the rural economic system will be carried out in a healthy way.

The author of this survey report, the Chinese Rural Development Problem Study Team, is a sparetime academic study organization composed of a few score young theoretical workers, research fellows and university students who work under the guidance of the Agricultural Economy Research Institute of the Chinese Academy of Social Sciences.

China's farflung rural villages are currently undergoing a thorough economic restructuring. The unprecedently high enthusiasm for production of hundreds of millions of peasants is a major mark of the success that this restructuring has achieved. Establishment of various forms of production responsibility systems makes a fine starting point for this restructuring. The economic accounting units in rural villages throughout the country that have already set up various forms of a production responsibility system number 97.8 percent of all economic accounting units, and those practicing "double contracting to households" (contracting production to households and contracting work tasks to households) is close to 50 percent. Establishment of production responsibility systems far exceed their original significance; they are, in fact, a partial readjustment of production relationships. Thus, study of the new problems and new trends following institution of various forms of responsibility systems, and particularly following institution of double contracting to households, holds major significance for further development of the very fine rural situation and for promoting the smooth socio-economic restructuring of rural villages.

In this connection, we conducted a survey in Chuxian Prefecture, Anhui Province during July and August 1981. This survey centered around "the new problems and new trends that had appeared in rural development following double contracting to households." In Chuxian Prefecture rural villages instituted various forms of responsibility systems at a fairly early time, and now double contracting to households is done in more than 97 percent of all households. This prefecture is located in the hills between the Yangtze and Huai rivers where natural conditions are moderately good. Prior to 1977 the prefecture was below average national levels in terms of average agricultural output value for the rural population, as well as in terms of grain output and commodity rate. During the last 2 years it has greatly exceeded the average national levels.

The main focus of our survey was on the following several problems:

I. Grain Output Problems

It is common knowledge that no great change in the diet of the Chinese people is possible within a short period of time, and that for a fairly long period of time both agricultural production and food consumption must be chiefly in the form of grain. The outlook for grain production has a great bearing on growth of China's national economy. What is the situation in grain production in areas where double contracting to households has been done, and what is the trend of development? The Chuxian Prefecture survey helped enlighten us.

1. The Shortterm Trend in Grain Production

Chuxian Prefecture has 6.5 million mu of cultivated land (actually more than this figure). In 1976 and 1977 it produced 2.8 billion jin of grain annually.

As a result of severe natural disasters in 1978, this figure fell to 2.3 billion jin. In 1979, despite disasters one after another, as a result of the initiation of the contracting of production to teams, it again rose to 2.8 billion jin. In 1980, by which time half of all production teams had instituted double contracting to households, grain output totaled 3.2 billion jin for a net increase of 400 million jin. In 1981, when more than 90 percent of production teams were practicing double contracting to households, grain output totaled 4 billion jin, a net increase of 800 million jin. Within the very short space of 2 years, a greater than 40 percent increase occurred with unprecedented rapidity.

The most fundamental reason for this increase was the liberalization of rural economic policies and institution of responsibility systems of double contracting to households that followed in the wake of the Third Plenary Session of the 11th Party Central Committee and aroused extreme peasant enthusiasm for production. Specific reasons were: First, expansion of the cultivated area and increase in the land's extensive utilization rate. Abandoned and waste lands were brought under cultivation for an increase in the grainfield area. Second, intensive farming for an increase in yields per unit of area. This was an increase in input of labor, improvement in field care, greatly increased use of chemical fertilizers (the prefecture using in 1981 double the amount of 1979), further promotion of superior crop varieties, increase in the multiple cropping index, etc.

2. Shortterm Forecast for Grain Output

Following the double contracting to households, grain production expanded very rapidly, but will it be possible in future years to continue this fairly rapid speed of growth? This is a problem that concerns everybody. According to estimates made by comrades in the policy research offices of the Fengyang and Dingyuan County CPC committees, in normal years grain output can continue to increase for from 3 to 5 years at a 5 to 7 percent rate of speed. The principal bases for the sustained fairly rapid growth in grain output for the past several years have been the following:

(1) More sensible input of labor and further improvement in field care; (2) continued increase in the amount of barnyard manure used for improvement in the soil's physical structure and an increase in its fertility; (3) increase in quantities of chemical fertilizer used; (4) further promotion of superior varieties; and (5) increase in high yield dryland crops. In short, the increases in grain output over the next several years will depend to a fairly large extent on increases in yields per unit of area. Today, grain yields in Chuxian Prefecture as figured on the basis of area sown amount to only 300 jin per mu. Within several years, fairly substantial increases in yields per unit of area are entirely possible.

However, after 1985 unless appreciable improvements are made in agricultural production conditions and the farming system, the speed of increase in grain production will slacken and become low-speed growth. The main foundation for this contention is as follows: (1) difficulties in further increasing either the cultivated land area or the area sown to grain. To bring virgin soil under cultivation will mean intensification of erosion and destruction of the ecological balance, the losses outweighing the gains; (2) difficulties in continuing to increase the multiple cropping index; (3) difficulties in continuing tremendous increases in chemical fertilizer supply; (4) difficulties in further improving water conservancy conditions within a short period of time; and (5) because of insufficient fertilizer, the soil is asked to produce more than it can. In summary, unless existing production conditions meet requirements for continued growth of production and are substantially improved, the speed of growth of grain production will be very limited.

This shows that as a result of increase in peasant enthusiasm following institution of double contracting to households, sustained increase in grain production over a period of 3 to 5 years is possible. However, unless attention is given improvement of existing production conditions and new farming programs adopted, such as banding together for farmland capital construction and creating a new type farming system suited to the scale of operations, it will be impossible to continue to maintain the present growth impetus and the speed of development must inevitably slacken. A country as large as China must commit itself to solution of its own grain problems and "positively no slackening in grain production" must become our basic national policy. The problem is that in some future years, conditions that limit growth of grain output will become increasingly numerous, and potential for use of existing production conditions will become increasingly less. We should begin now to study prospects for grain production and take the necessary action for sustained growth of both grain production and other economic diversification as well.

II. Problems in Farming the Land

Land is the basic element that limits agricultural development. A fundamental characteristic of double contracting to households is dispersal of collectively owned land to peasant households for farming under contract. Peasant enthusiasm for farming the land has been aroused. Formerly rectangular plots were farmed as gardens, but now gardens are farmed as rectangular plots once again. Borders and corners of fields, and areas in front of and behind houses are used, small size farmland water conservancy facilities within the area farmed by peasant households have also been rapidly put in operating condition. Peasant households have self-determination; they may plan their crop rotation rationally on the basis of soil fertility and market demand under guidance of state plans. Both land utilization rates and results from farming have generally increased. All this makes for very great progress over the former method of a "great hullabaloo." However, this does not mean that all the problems in peasant household contracting the farming of public land have been solved. As a result of the Chuxian Prefecture survey, we feel that the following several problems exist in farming of the land that are related to double contracting to households.

1. Land Contracting Problems

Land can be good or bad, distant or near, wet or dry, flat or hilly, and differences in water supply situations may also exist. In contracting land, a method of matching up to make an average is mostly done, and this causes substantial fragmenting of the contracted land. Not only does this fragmenting make for inconvenience in peasant field operations and care, but even more importantly it plays hobs with the water system. Crop varieties and rotation of crops differ from one household to another, and both amounts of water used and times of use vary, conflicts in the use of water frequently resulting. In Chuxian Prefecture, wetlands account for 58 percent of the cultivated land area. During the past 2 years there have been no very large disasters in the prefecture, but between 20 and 30 percent of all civil incidents have related directly to arguments about use of water. Were there to be a serious drought, there would be even more conflicts.

Not only this, but because the population is large relative to available land, in most communes and brigades the land was proportionally contracted according to population, or according to population and the workforce. However, the size of the population and workforce frequently changed. In our survey of 2,079 households in four communes in two counties, in the space of 2 years population changes took place in 325 households for a change rate of 15.6 percent. Of these, the change rate was 10 percent in the contracting of land on the basis of population. Where land had been contracted in proportion to both population and workforces, the change rate was about 20 percent. During the past 2 years increase or decrease in population occurred in 12 of the 34 households in the Guojia Small Team of Jiangshan Production Brigade in Jiangshan Commune in Fengyang County. This was 35 percent of the total number of peasant households. In 10 of the 25 households in the Xiaowang Production Team of Qianjin Production Brigade in that same commune, population increases or decreases occurred. That was in 40 percent of all households. In Daqihe Commune in Fengyang County, in 12 of the peasant households that held certificates showing birth of only a single son or daughter, none of the sons or daughters were contracted land. In some cases where young men had married and born a child, one-tenth of a mu of land was contracted for all three. In places practicing double contracting to households, land in an overwhelming majority of communes and brigades has already been completely contracted and it has been expressly provided in writing that no changes are to take place for several years. As time passes, changes in both population and workforces will continue to occur. Thus, the issue of readjustment of land contracting must be put on the agenda.

On the question of land problems requiring readjustment such as fragmentation of land for contracting, playing hobs with the water system, and population changes, Chuxian Prefecture already has fairly good experience. Beginning in 1980, Songshushan Small Team in Sansheng Commune, Quanjiao County evaluated output of each and every natural plot of land, finding maximum yield of 700 jin per mu and a minimum yield of 400 jin per mu. It followed this with an assessment of 3.50 yuan for every 100 jin of evaluated yield to be payed as a state purchase quota and collective withholdings, which was also prorated for plots of different quality, more being assessed for use of good land, and less being assessed for poor fields to balance out differential incomes from different quality plots contracted for. The brigade also carried out a pond by pond evaluation of large and small ponds in terms of their different water storage capacities, large ponds to be used in common and those using small ponds to get supplementary amounts of water from the brigade according to a unified system, thereby solving problems arising out of different water conditions. Proceeding on the basis of evaluation of yields for fields and evaluation of water in ponds, the brigade layed out new continuous strips of land on the basis of different water systems serving them to replace the system whereby land that had been divided into pieces following contracting, thus helping farming. Following such readjustments, commune members were relatively satisfied. During the year preceding this readjustment of land there had been 10 civil quarrels resulting from water use, but following readjustment, there were none. Furthermore, water conservation facilities were put under the care of specific people with commune members taking the initiative in maintaining them in good repair to change the former system of "swarming to use water, but not moving to repair the ponds."

When Xiaowangzhuang Production Team in Jiangshan Commune, Fengyang County instituted contracting of production to individual households in 1979, it held 20 mu of fields in reserve. Should anyone leave the production team as a result of marriage or death, they had to surrender their land and the land became a reserve under centralized control of the production team. Reserve fields were ordinarily contracted out to peasant households with large numbers of workers. When the production team's population increased, an average 2 mu per person of reserve fields was contracted out. In view of the production team's anticipated population increase under its birth control plans, this method will be able to satisfy demands for land resulting from population increase for up to 10 years.

2. Land Utilization Problems

Following double contracting to individual households, the peasants generally planted crops on their land that brought high profits and quick results. They adopted some measures to increase results that were effective at once and did not take the initiative to farm crops requiring several years before benefits could be reaped. They were unwilling to use measures for increasing output that brought longterm benefits. In 1976 Chuxian Prefecture grew 1.31 million mu of green manure, but in 1980 it grew only 300,000 mu. During this same period, quantity of chemical fertilizer applied increased from 87,600 tons to 239,800 tons. Existing wastelands were quickly cleared, and land made by filling in lakes was all planted. In this situation, how to insure that the land's fertility would not decrease with each passing year, and how to carry out a rational reversion of cultivated land to forests or fisheries to maintain the ecological balance, and such longterm measures, was a difficult problem urgently in need of study and solution.

After their longrange use and rights to farm the land, as well as their rights to farm the land as they wanted changed, the peasant's did some longrange thinking about farming the land and realized this was closely related to investment in the land. Readjustment of the land would make peasant investment in the land for which they contracted change as their rights to farm the land changed. Action to achieve ecological balance, and use of cultivated land for the building of water conservancy and other public facilities would hurt the peasants' direct interests. Under these circumstances, were the method of egalitarianism and indiscriminate transfer of resources to be applied simplistically in readjustment of the land and to solve problems in use of land for public facilities, that would either meet with peasant opposition or result in the land being farmed in a plundering fashion. It was necessary to let the peasants make longterm plans and encourage the peasants to undertake large scale, longterm investments to improve land quality. Suitable methods had to be adopted so that peasants would be compensated for the living labor and the embodied labor that they invested in improving the land. It was necessary, in addition, to induce the peasants to consider their longrange interests by growing crops that nurtured the soil and by rational crop rotation. This required corresponding economic measures as inducements.

3. Problems in Land Transfers

In order to fully guarantee public ownership of land, areas instituting double contracting to individual households framed regulations not allowing the transfer, rental, or sale of land, and not permitting the hiring of workers to farm it. They also took action to render assistance to hardship households. Under these circumstances instances of land transfers or hiring of workers were few and far between in Chuxian Prefecture. Comrades in the Fengyang County Policy Research Office reported that an overwhelming majority of peasant households contracting land were able to farm it themselves, but for about 2 to 3 percent of peasant households farming was difficult. The main workforce in some of these was either cadres or industrial workers; some were engaged in industrial sideline occupations and business, and some were hardship households with no able-bodied workers. How could such peasant households solve difficulties in independent farming? (1) An overwhelming majority did the work themselves, asking for help during the busy season in farming; (2) In a small number of cases, they farmed a portion of the land themselves and transferred the other part to others to work, the contracting household bearing responsibility for state procurement quotas and withholding quotas for all the contracted land. Alternatively the contracted land was farmed by someone else, the contracting household buying its grain rations at list prices and benefiting from price differences. (3) In extremely few instances, others were asked to do the planting with the harvest reverting to the contracting household and only a portion of the grain being given as compensation to the household doing the farming. Though most of the foregoing three kinds of situations took place among relatives; nevertheless, they were fairly clearly in the nature of hiring workers.

III. Problems of Gaps Between Poverty and Wealth.

Following double contracting to individual households, agricultural production efficiency increased remarkably, but how to avoid a gap between the poor and the rich became an important question about which everyone was concerned. Our understanding of this question is as follows:

1. Extent of Peasant Household Prosperity and Differences

Following double contracting to individual households, peasant income in Chuxian Prefecture increased everywhere. Computation of earnings in terms comparable to the former portion of earnings from collective distributions showed that a commune member income of 79 yuan in 1977 increased to 103 yuan in 1980, a 30.4 percent increase (figured in terms of variable prices, the 1980 amount was 128 yuan, a 62 percent increase). If the portion of earnings derived from commune member household sideline occupations and private plots were added to this, average net income for commune members in the prefecture as a whole was about 200 yuan, an almost doubling of income. We surveyed the family livelihood of 114 peasant households. In only one such household had income declined from what it had been before double contracting to individual households. Prefecture and county policy research office comrades reported that for more than 95 percent of peasant households, earnings had increased considerably.

Comparison of differences in levels of peasant household income today with those before double contracting to individual households was instituted revealed no clear widening trend. Taking three production teams in the prefecture with high, medium, and low income levels as an example (See Table 1), the gap in income between the household with the highest income and the one with the lowest income has narrowed from what it had been before double contracting to individual households. A look at peasant household income levels shows that in Xiaogang and Luzhuang production teams, income levels for each peasant household were closer to the average income level for the team as a whole than was the case before double contracting to individual households. That there has been no clear widening of the gap between the poor and the rich results from the following reasons: Universally high enthusiasm for production; land was proportionally distributed on the basis of population, or on the basis of population and workforces, and not solely on the basis of workforces. In production, individual peasant household could act on their own initiative to make the most of strengths and avoid weaknesses; supplementary workforces in families could be used to full advantage, etc.

2. Peasants' Psychological Reaction to the Gap Between the Poor and the Rich

At the present time the reaction of Chuxian Prefecture peasants to the gap between the poor and the rich is not great, and much less does it pose a threat to social stability and development. The following are the reasons why:

First, peasant income has risen everywhere. Among those we surveyed, the answer from 98.6 percent was "incomes have gone up; at least everyone has food to eat. Those replying, "poor families have also increased their income; they have no cause for complaint," numbered 97.9 percent. This is a solid basis for guaranteeing unruffled peasant feelings and continuation of enthusiasm for production at a high level. For many years they have been frightfully poor, so their first concerns are food to eat and clothes to wear, and during the past 2 years everywhere they have had both. As a result, they are satisfied and are not upset at the existence of a gap between rich and poor.

Second there is no obvious expansion of the gap between the rich and the poor (See Table 1)

Third, everybody now has an opportunity to get rich. Of those surveyed, 88.2 percent replied as follows: "Both the land and the oxen to farm it have been contracted, so those with ability get rich first. No complaints." The peasants now feel that everybody now depends on his own ability and sweat, and works under generally equal production conditions. Amount of earnings depends substantially on amount of work and quality of work and not on social position or special privileges. As far as differences between one household and another in amounts of funds, and amount and quality of able-bodied workers are concerned in these circumstances, most of the peasants felt this was natural and fair.

Fourth, peasant feelings of security have increased. In places like Chuxian Prefecture, the peasants' greatest feeling of insecurity is about not having enough warm clothing to wear or enough food to eat. Double contracting to individual households very quickly solved the peasants' problems with clothing and food: consequently, at the minimum level of human needs, the peasants' feelings of security have been strengthened. In addition, the general increase in commune member income and improvement in relations between one person and another have increased possibilities for mutual cooperation among peasants in money and labor. This has further enhanced their sense of security.

Table 1. Average Income In Representative in Upper, Medium and Low Income Production Teams

Team Name	Year	Average Net Per Capita Income					Average Variation in Average Per Capita Net Income			
		Highest Household	Lowest Household	Difference Between Highest and Lowest Household	Team Average		Original Value	Converted Value	Increase As Compared with Prior to Contracting Individual Households	
		(Yuan)	(Yuan)	(Yuan)	(%)	(Yuan)	(Yuan)	(Yuan)	(Yuan)	(Percent)
Xiaogang	1977	88	6.4	81.6	1275	35	17	168	-	-
	1980	668	168	500	298	342	110	110	-58	-345
Hezhuang	1978	192	36	156	433	116	40	186	-	-
	1980	1146	336	810	241	545	249	249	63	331
Luzhuang	1980	413	117	296	253	198	58	102	-	-
	1981	586	263	323	123	353	61	61	-41	-402

Notes: 1. Luzhuang Team's 1981 income figures have been estimated

2. Because the average value of income for the team as a whole differed before and after contracting work tasks to individual households making comparison of average variation impossible, conversion of the average variation was done on the basis of corresponding proportions, so comparison could be made.

3. Necessity and Practicability of Assisting Hardship Households

Following double contracting to individual households in Chuzian Prefecture, the income of most hardship households increased, and the number of hardship households declined. Take Fuxing Commune in Laian County, for example. There the proportion of hardship households having an annual grain ration of less than 360 jin and average per capita earnings of less than 50 yuan fell from 30 percent of the total number of households in 1977 to 4.5 percent in 1980. Most of the former hardship households got out of their situation of not having enough clothes to keep warm or enough food to eat, and most of the present hardship households have also increased their incomes. Nevertheless, some hardship households have a very hard life, and income has fallen for a very small number of hardship households. An overwhelming majority of them welcomed double contracting to individual households, but their psychological reaction to the gap between poor and rich is stronger than in the case of other peasant households.

A look at the trend of development of the gap between poor and rich shows that unless appropriate action is taken, any one of the following situations can occur: As problems of having sufficient warm clothing to wear and enough food to eat are universally solved and contracting to individual households goes on for a long period of time, the peasants will become increasingly concerned about the gap between rich and poor. Prosperous households will use the abundant funds and the fairly high production technology they have at hand to either directly or indirectly transgress the interests of hardship households. Equality of opportunity to become rich will be destroyed, and hardship households will transfer possession of their production tools or even covertly transfer land. In this way the gap between the rich and the poor will exhibit a tendency to widen becoming an element in the destruction of social order and development. For these reasons, assistance to hardship households is necessary.

The guiding idea in the work of giving assistance to hardship households in Chuxian Prefecture is "helping the poor entails helping their will, and helping their will entails helping fundamentally." By "helping will" is meant teaching those to be helped to develop the will and the courage to shake off poverty and, with appropriate outside help, to rely mostly on their own efforts to overcome hardships, increase income, and guard against developing a mentality of dependence. By "helping fundamentally" is meant helping those needing help to develop production in order to solve their problems in a fundamental way rather than simply give them relief. Of course it is also necessary to give hardship households a certain amount of help to solve their real present hardships so that they will be able to take the first step along the road to the development of production. Specific ways of doing this are as follows:

(1) Formulation of standards for "helping the poor." In general such standards should include: those who lack a principal worker, or those whose principal worker has been ill for a long time and who do not have enough income to maintain the minimum local living standard; those who have little accumulated wealth, are deeply in debt, and lack minimal implements and funds for production as well as the necessities of life; those who have sustained natural or man-made disasters and who are unable to shake off adversity through their own efforts within a short period of time; and male and female children who have not yet reached adulthood who are carrying heavy burdens and whose lives are extremely hard. Those who lack will and depend on others, or do not work and are hard up as a result should not be objects for "help to the poor" in most cases. However, they should be

helped develop will and courage. Pacts should be concluded with them to guarantee production, and they should be supervised and encouraged to take the right road.

(2) Determine who is to be given "help to the poor." A thorough survey of hardship households has to be done first; and they should be registered and recorded. Then the masses should hold discussions for evaluation purposes; production brigades should investigate; communes should approve, and finally the facts should be publicly posted. Every effort should be made to avoid omissions so that the masses will not be dissatisfied and so benefits from "help to the poor" will not be impaired.

(3) Support with funds. In general goods, not money, should be given. Most of the things given should be those that can be used in agricultural sideline production such as chemical fertilizer, seeds, pesticides, as well as piglets and chicks. Second should be clothing and home building materials for use in daily life.

(4) Help with workers and skills (both for production and for daily life). Generally such help should be given by setting up "mass help teams." Laian County also used a system whereby cadres were made responsible for households in "helping the poor." Cadres above the County Science Bureau level and most cadres in districts, communes, and production brigades set up associations of households responsible for helping the objects of the "helping the poor" effort to formulate measures for throwing off their poverty and to help them plan production and daily living with someone being responsible for everything.

(5) Priority care in production conditions. This includes priority in contracting land, for example, priority in providing for use of draft animals, farm implements, and machines; priority in water supply; priority in supply of chemical fertilizer, pesticides, and superior seeds, etc.

(6) Lightening or exemption from responsibilities in many ways. This includes production team reduction or exemption from withholding quotas; commune and brigade enterprises reduction or exemption of processing fees for grain and edible oil; medical department reduction or exemption from some medical fees; water conservancy department reduction or exemption of fees for water; education department reduction or exemption from various school fees; priority supply of goods at list price by departments concerned, etc. However, opinions vary on this.

(7) Regular inspection of results from "helping the poor." From the foregoing specific measures may be seen that "help to the poor" differs from simple social relief. It is not simply bringing income to a common level, and much less is it robbing Peter to pay Paul, but rather is an effort to improve the relatively poor production conditions and individual capabilities of hardship households so that they will be able to use on generally equal terms with others the opportunities to become rich that they

are unable to use to the full by themselves, and to actively engage in agricultural sideline production, thereby increasing their own income levels and getting rid of poverty. Therefore, correct "helping the poor" neither leads to egalitarianism causing production efficiency to decline, nor does it widen the gap between rich and poor thereby impairing social order and economic development.

IV. Direction of Flow of Workforces and Funds

Following double contracting to individual households in Chuxian Prefecture, peasant investment of effective manpower greatly increased and ineffective manpower greatly declined. The amount of funds peasants possessed increased. A new trend toward excess manpower and funds appeared.

1. Increase in Surplus Rural Labor

As the efficiency of agricultural production increases and the working population increases, a surplus of rural workforces has become apparent. This surplus is both a year round one and a seasonal one. It has been calculated that about 20 percent of Chuxian Prefecture's agricultural workforce (or 220,000 people) could leave the land all year round, and the number is continuing to grow. This is because of the following:

First, though the speed of population increase may possibly slack, the speed of increase in the workforce is still rapid. About one-half of Chuxian Prefecture's 3.34 million population is under 19 years of age. In any given year in the future, the population coming of working age far exceeds the population that is retiring. If ages 18 to 60 are considered working ages, the prefecture's working age population will increase by 46 percent over the next 10 years, and by 62 percent during the next 18 years.

Second, the cultivated land area is shrinking. In 1980 the amount of cultivated land per capita of the agricultural workforce averaged 5.41 mu, 43 percent less than the 9.54 mu of 1952 for an average annual incremental decline of 2.01 percent. As a result of increase in the working age population, even if the cultivated land area shrinks no further, it is estimated that within the next 18 years, the amount of cultivated land per capita of the workforce will be 38 percent less than it is today, for an average annual 2.65 percent incremental decrease, which is faster than the incremental decrease of the past 28 years.

Therefore, if no major changes take place in the current rural employment structure, the surplus workforce will double within 5 years after the beginning of the 1980's, and will triple within 10 years. It will be 40 percent of the total agricultural workforce at the time. It will not be until the 1990's that the speed of increase in the surplus workforce will slacken (See Table 2).

If one says that the present 220,000 surplus rural workforce has not yet caused any obvious bad effect, the 470,000 of 5 years hence or the 710,000 of 10 years hence will exert considerable pressure on society. To rely on nearby cities to take that much surplus workforce in the future is very difficult to imagine. Therefore, various preparations must be made to transfer agricultural workforces as soon as possible.

Table 2. Change Trends in Chuxian Prefecture's Surplus Rural Workforces

Year	Agricultural Workforce (10,000)	Average Amount of Cultivated Land Per Capita of Workforce	Surplus Rural Workforce		
			Quantity (10,000)	Increase From 1980 (%)	Percent of Agricultural Workforce
1980	116.9	5.35	23.3	--	19.9
1985	143.4	4.36	47.0	101.7	32.8
1990	170.2	3.67	71.0	204.7	41.7
1995	185.2	3.38	84.4	262.2	45.6
1998	189.7	3.30	88.4	279.4	46.6

2. Improvement in Rural Capital Situation

Production cannot develop with a workforce alone. For many years a vicious cycle has existed in rural villages of "lack of investment—slow development of production--low labor productivity rate--slow accumulation of capital--lack of investment." The party's rural economic policies have caused Chuxian Prefecture's agricultural production to begin to break this vicious cycle, with the result that the rural capital shortage situation has taken a fairly clear turn for the better. This has increased investment in agricultural production and brought the prospect of fine development.

Formerly the rural collective economy made distributions only after having deducted production expenses, and commune member earnings were used substantially for consumption. Following the contracting of work tasks to individual households, both agricultural production expenses and investment in fixed assets were paid for largely out of the earnings of peasant households themselves; peasant income was no longer consumption funds. Survey showed the ratio between peasant household daily living payments and production payments to be basically 30 percent to 70 percent. Among production type payments, agricultural production expenses accounted for more than 60 percent, and production of fixed assets, industrial sideline occupation raw materials, and other production type payments each amounted to more than 10 percent. Among daily living expenses, food accounted for more than 50 percent; clothing, housing, and consumption goods each accounted for more than 10 percent; and other expenditures were less than 10 percent. These circumstances should be given attention when formulating rural economic policies.

Following double contracting to individual households, because the peasants' personal welfare was closely linked to results in agricultural production, enthusiasm for production increased, voluntary contraction in the ratio of spending occurred, and increased investment in production became the trend. During the past 3 years the Chuxian Prefecture supply and marketing system's sales figures for the means of livelihood have increased at a rate of less than 10 percent, but its sales figures for the means of agricultural production have increased year after year by more than 20 percent, including a 29 percent increase in 1980.

Today a considerable amount of currency that can be used for the purchase of things is in the hands of the peasants. How to make this money that is waiting to be spent play a constructive role in development of the national economy without impacting on the market is a problem requiring meticulous study and conscientious treatment. Just what the prospects and results are for peasant pooling of funds for partnership operations and of encouragement to peasants to invest in the collective or even in state-owned enterprises should be thoroughly explored.

It has to be appreciated that rural villages have just now solved problems of sufficient clothing to keep warm and enough food to eat, that they have just begun to accumulate some funds, and that development of agricultural production urgently requires funds. Investment capabilities and needs for expansion of reproduction are far apart. Under these circumstances how to induce the peasants to make rational use of these funds holds very great significance for China's rural development. It is necessary to proceed on the basis of gradual increase in peasant spending on living to planned encouragement and guidance to peasants for productive investment. Attention should be directed to avoidance of premature spending beyond levels of production. For example, for the time being there should be no publicizing or encouragement to peasants to travel to distant places.

3. Within the short term, emphasis should be placed on development of economic diversification on a family scale.

In a situation of many laborers and little capital, how can surplus rural workforces and limited capital be put to work in a fairly rational way. How much capital is required per worker in the production process is a major indicator in judging the capabilities of various sectors of the rural economy to absorb the surplus workforce. The experiences of Quanjiao County show that the amount of capital required per workers in a commume or brigade enterprise averages 3.8 times that for workers engaged in economic diversification on a family scale. The amount of fixed assets used by the former is 8.1 times that of the latter. For every 10,000 yuan in fixed assets, 10 people can be placed in a commune or brigade enterprise. Used in economic diversification on a family scale, 81 people can be placed. In addition, in overall terms, speed of accumulation of capital from economic diversification on a family scale is faster than for commune and brigade enterprises. Calculations show that for every 100 yuan of capital invested in Quanjiao County, commune and brigade enterprises could produce 71.59 yuan net income per year, while family scale economic diversification could produce 233.33 yuan of net income, which was 3.3 times the former. Thus, the rate of productivity of the latter's fixed assets was 4.1 times that of the former.

Formerly under circumstances of limited peasant operation of industrial sideline occupations and in which industrial and agricultural product comparative prices were inequitable, commune and brigade industrial enterprises played an active role in solving the problem of rural capital shortage. In the future, with readjustment of the national economy and changes in rural production relationships, existing commune and brigade industrial enterprises will have to try to develop in the midst of readjustment and do the necessary restructuring to meet changes in rural economic life. In their operations, they will have to stress production of products for which raw materials are plentiful, energy consumption small, and for which markets can be found. Examples are farm implements and building materials that are urgently needed in rural villages now. These should be underscored. However, in order to make the capital in peasant hands achieve greater use and make peasant enthusiasm for productive activities greater, as far as Chuxian Prefecture is concerned, for the short term the emphasis should be on development of family scale economic diversification. Not only does family scale economic diversification take little capital, but for the same amount of capital the rate of production is vastly higher than that of commune and brigade enterprises, and for investment of the same amount of capital in families, a greater amount of surplus workforces can be absorbed. Therefore, directing the flow of labor and capital to family scale economic diversification great significance as a way of solving the problem of excess rural labor, making full use of the role of limited capital, and increasing results in the macroeconomy. On this basis, large numbers of peasant households with double occupations will come into being, and there will be increasing differentiation of specialized households to change the trend of decline in the per capita amount of cultivated land.

Under existing market control circumstances, price policies play a substantial guiding role in the flow of rural labor and capital. In formulating price policies, the state should make an all-around evaluation of production potential, market potential, and of the consequences of labor and capital flow.

Right now a certain blindness exists in the movement of labor and capital. In some areas, too many industrial and commercial service industries are being operated in excess of actual needs, while some matters of economic diversification holding prospects do not develop as they should for lack of sufficient support. Some places having no assurance of fuel supplies buy trucks and tracts for agricultural use, and in some peasant households there are symptoms of lack of concern for continued development of grain production. In handling these matters, leadership departments should use economic methods, legal methods, and necessary administrative methods to intervene and give direction.

V. Prospects For Cooperative Association

During the last 2 years various kinds and forms of cooperative associations have come into being in the development of the rural economy. We also observed and studied the present state and prospects for these new cooperative association forms.

1. Present status of cooperative association

According to incomplete statistics from Chuxian Prefecture dated May 1981 in addition to a large amount of seasonal and temporary simple cooperation among peasant households, there were a total of 6,114 fairly stable economically associated groups participated in by 26,865 households on 14 kinds of undertakings throughout the prefecture. This was 4.5 percent of the total number of peasant households. Directly engaged in associated undertakings were 23,441 people or 2.1 percent of the prefecture's total workforce, an average of 4.4 households per associated group, with 3.8 people per household participating in endeavors directly.

This new associated groups are distributed largely in the three counties of Dingyuan, Fengyang, and Jiashan, which instituted the contracting of sole responsibility for work tasks to households fairly early, where the foundation for collective industrial sideline occupations is shaky, where state requisition base figures are fairly low, and where capital has accumulated fairly rapidly. Statistical data from Jiashan County shows that the speed of development of associated groups has been fairly rapid as follows: As of April 1981, associated groups numbered 1,078. By August the number had grown to 3,909 for a 262 percent increase. The 4,415 participating households grew to 21,411, a 385 percent increase and 24 percent of the county's total number of peasant households.

The specific form of Chuxian Prefecture's cooperative and associated groups may be divided into three kinds in terms of the relative degree of their agriculture in a narrow sense. The first kind is cooperation and association directly in the production process in a narrow sense and in economic diversification, which accounts for 91.7 percent of all households in associated groups. The second kind is associated groups in manufacturing industries and doing preliminary processing of agricultural products, which account for 7.2 percent of the total number of associated group peasant households. The third kind is associated groups in business and the service trades, which number 1.1 percent of all peasant households in associated groups. Distribution of already formed associated economic groups in 23 different kinds of activities is shown in Table 3.

Table 3. Distribution of Associated Economic Groups Engaged in 23 Kinds of Activities

	Category 1						Category 2											Category 3					
	Tractors	Plant Protection	Tobacco Curing	Seed Production	Seedling Growing	Fish Raising	Grain & Cotton Processing Plant	Wheat Flour Workshop	Bean Curd Workshop	Edible Oil Workshop	Kiln	Phosphate Fertilizer Plant	Cement Plant	Quarry	Wood and Iron Workshop	Construction Corps	Cultivation and Processing Plant [1014 0455 1681]	Trade Goods Storage	Retail Shop	Restaurant	Inn	Transportation Corps	Cinema Team
Number	812	3	6	7	908	1676	236	34	33	24	40	1	1	14	25	3	1	1	35	27	4	17	1
Number of Particapating Households	9731	2637	39	266	5195	2776	581	81	84	62	569	8	4	66	72	17	6	4	89	73	13	35	3
Number of Participating Persons	1732	42	29	263	2101	965	510	84	112	65	681	16	4	107	79	32	12	4	86	86	8	38	3

The need for cooperation and association was born, first of all, in the direct production process in agriculture after which it grew into associated groups in industrial sideline occupations, in business, and in the service trades.

2. Several Characteristics of Cooperation and Association

First, the new associated groups fundamentally have to do with association before farming and after farming, as well as to the simple cooperation occasioned by the seasonality and sudden needs of farming itself.

Second, most of the new associated groups have taken the form of being loosely affiliated but not combined. Each participant does an independent economic accounting, becomes a shareholder voluntarily, withdraws voluntarily, and individual households may be a part of several associated groups at the same time. At the time they are set up, either a number of people equivalent to the number of shares bought are employed, or shares are bought according to the amount of funds available and the number of people to be employed is set according to production needs. Mostly distribution is done in accordance with work, bonusus in accordance with the amount of shares purchased being ancillary.

Third, currently these associated groups are still in their formative stages. Concentration of able farmers in the farming industry and concentration of skilled craftsmen in industrial sideline industries is only just beginning to appear, while economic association of specialized peasant households or economic association based on specialized division of labor is a rarity in actual rural economic life.

The reasons for the rapid development of new economic association in Chuxian Prefecture and the reasons they bear on such a wide range of activities are as follows:

First is liberalization of policies and the peasants having self-determination. Not only have restrictions on private individuals not being permitted to buy machinery been lifted, but support has been given such purchases by installment plan buying. Not only are peasants permitted to go in for economic diversification, but they are allowed to open retail shops and run industrial plants. Only in this way has it been possible for new economic associations to come into being in Chuxian Prefecture.

Second is the existence of surplus labor and idle capital. Following the contracting of full responsibility for work tasks to individual households, the trend toward change in the structure of the rural workforce was one of "three increases and three decreases," by which is meant an increase in the amount of effective labor, and a decrease in the amount of ineffective labor; an increase in the amount of labor employed in multiple industries, and a decrease in the amount of labor engaged in agriculture; an increase in auxiliary labor, and a decrease in labor by women. The labor surplus in agriculture that had been covered up by the "great hullabaloo," was brought out into the open. Take Kaocheng Commune in Fengyang County, where there are a fairly large number of economically associated groups, for example. Kaocheng Commune has a workforce totaling 7,200 people, each member of the workforce being responsible for farming an average of 4.4 mu. According to calculations we made about the number of workers needed to farm various crops, 2,700 workers would be needed for the somewhat more than 30,000 mu in the commune. Calculations made from a representative sampling of households showed household sideline occupations requiring a workforce of 1,200 people, so the surplus workforce amounted to more than 45 percent. The surplus labor and idle capital had to join together for development in depth and in breadth.

Third is changes in market conditions. With development of production and increase in income, gradual increase occurred in peasant demands for the means of livelihood, the means of consumption, and for services in their daily lives. However, on the other hand, some commune and brigade enterprises in the existing collective economy that had a shaky foundation, a bad attitude toward service, and poor results from their operations, became mired in a state of paralysis and stagnation one after another. Their supply of the means of production was inadequate, channels for the flow of materials became clogged, and sharp conflicts between supply and demand occurred. In such a situation, peasant household investment of funds had an extremely powerful attraction. The peasants hoped to rely on their own strength to bring about many channels of flow for materials and to blaze new production trails.

3. Socio-economic Results

Comrades in Chuxian Prefecture said that the new economic association groups made the most of strengths in contracting full responsibility for completion of work tasks to individual households and made up for shortcomings in such contracting. This made sense. With the establishment of associated groups by contract households, this form of organization that helped development of production was better able to effectively increase the socio-economic benefits of agriculture.

First, it brought into play the initiative of both individuals and collectives in the farming industry. Formerly when the "great hullabaloo" was practiced in agricultural production, the relationship between the labor contributions of commune members and the remuneration of labor was expressed through the medium of workpoints. However, practice has shown that the workpoint system cannot effectively put into effect the principle of distributions according to work. On the one hand this system hurt individual commune member enthusiasm for labor, and it also did not allow productivity from cooperative production to develop. The responsibility system of contracting full responsibility for completion of work tasks to individual households effectively solved the first of these two problems;

nevertheless, it also gave rise to farming by independent households and further development of conflicts in production. Economic association solved these conflicts. While maintaining the responsibility system of contracting full responsibility for task completion to individual households, it brought about working in cooperation, expansion of space for reproduction, shortening of work hours, and a saving in both living labor and embodied labor. Its basic principle is decentralization of whatever should be decentralized, and centralization of whatever should be centralized. An example is the associated tractor team in Taiping Commune, Jiashan County, which instituted cooperation in the planting, tending, and harvesting links of grain production; and used machines more beneficially than had been possible by individual households in the production links of plowing, harrowing, hauling, and threshing. These methods were hailed by all the peasants.

Second, the new economic association helps both skilled farmers and skilled craftsmen make the most of their technical specialities and to gradually move from the foundation of contracting full responsibility for work task completion to individual households toward specialized production. In the former collective economy, as a result of egalitarianism and not being able to do work suited to one's abilities, the special skills of people were held in check, while at the same time some specialized division of labor became a privilege. Following the contracting of full task completion to individual households and the emergence of economically associated groups, an effective way in which to solve the foregoing problems was provided. In the production of tobacco, for instance, where it was not economical for individual households to set up curing rooms, when several households cooperated, the time for growing of seedlings, tending them and curing the tobacco would be largely identical. In this way, those skilled in the growing of tobacco would constitute the nucleus in getting together various households in association. Skilled tobacco grower Fu Ronghuai [0265 3837 2037] of Qiandong Production Team in Qiaotou Commune, Jiashan County had an annual income of 260 yuan solely from the growing of tobacco seedlings for three production teams. In growing the seedlings, he put the seeds that had been soaked into plastic bags, and when he went into the fields to work, he hung them on his clothing next to his skin, and when he slept, he put them inside the bed clothes until they had all sprouted. After planting them, he carefully tended them.

Third, the new economic association provided a workable organization form whereby rational arrangements could be made for use of manpower, capital, and natural resources. The contracting of full responsibility for work task completion to individual households had tapped production potential and steadily brought into being surplus labor and idle capital. How to make the best use of them and use them in expansion of agricultural reproduction and rural economic construction became a great problem. For example, in Kaocheng Commune some peasants had money with nothing to spend it on, so they frequented taverns, got together to gamble, and even made usurious loans, or went by train to Pangfou to carouse. After associated groups were set up, the considerable amount of idle funds in the hands of peasants were combined with the surplus labor and invested in expansion of reproduction.

Today, 85 of the 183 peasant households in Kaocheng Commune jointly operate integrated industrial and business associated groups for processing of grain and edible oil, and to do electric welding. They have purchased 47 tractors for a total investment of 188,700 yuan. Associations of peasant households in Taiping Commune invested 402,200 yuan in the purchase of tractors alone. This has not only converted dead money into live money, but large amounts of surplus labor have also been soaked up by these associated groups.

Fourth, the new economic association has promoted readjustment of the rural economic structure and has provided a stepping stone for the transition of the rural economy from what is substantially self-sufficiency production to a commodity economy. The former collective economy was engaged throughout in substantially the same kind of activities, and there was little division of labor for production of various kinds. In addition, workers within the collective economy were restricted to relatively unchanging work hours. For example carpenters and blacksmiths in production teams were generally responsible only for repair of the production team's farm tools and spent the rest of their time farming. Such an economic structure, whose horizons were the production team, was totally demolished by the contracting of full responsibility for task completion to individual households, and the new economic association provided an embryonic form for development of a new economic structure.

Fifth, the new economic association posed new demands for reform of the rural economic structure. Responsibility systems linked to production are a starting point for reform of the rural economy, and the birth of new economic association has strengthened this tendency. In Qiaotou Commune, for instance, there are two grain and cotton processing plants, one of which is operated jointly by peasant households and one of which is commune operated. The processing plant run jointly by peasant households does not have great resources by any means, but it stresses economic results, flexible methods, and thoughtful service, and it cares a great deal about its reputation. As a result, it has become dominant in competition with the commune run plant, and customers flock to its door. Though the commune run plant has better buildings and equipment than the plant run jointly by peasant households, it had to stop work for 2 months because of poor management, decline in earnings, and inability to pay wages. Finally it had to cut half of its employees and change from eating out of a large common pot to a system of contracting full responsibility for work task completion. This showed us that in reform of the rural economy it is possible to use a minimal social shock to gain very great results and, without directly changing the old system in name, to bring about gradual evolution of its actual content. This is advantageous, of course, in reform.

Double contracting to individual households is a basic condition for the existence and development of the new cooperation and association. For a substantially long period of time, the responsibility system of double contracting to households must remain stable and not be lightly changed. Any of the production links in farm that can be done independently by peasant households can also use cooperation and association, with peasants themselves feeling their way toward solutions in practice, the principles of voluntary participation for mutual benefit, and centralizing whatever lends itself to centralization while decentralizing whatever lends itself to decentralized being followed. There should be no artifical organization of cooperation and association, and care should be taken not to start a movement on a grand and spectacular scale, rushing headlong into rash action only to break up in a hubbub.

One can also not take an entirely laissez-faire attitude toward peasant cooperation and associated groups, but rather should set up statistical and supervisory systems, and use economic methods to put peasant associated groups on the path toward being a part of state plan. Financial departments should set up bank accounts for them, make loans to them, and take in their savings. Vocational departments concerned should help them set up responsibility systems and contract systems in cooperation, train management and technically skilled personnel in an organized fashion, gradually improve the cultural level of participants, and train cultured businessmen. Distinctions should be made in taxation, low profits being taxed low and high profits being taxed high. For associated groups having exceptionally high profits, accumulative total taxes should be levied, but this should be done loosely at first with tightening taking place later on, both so that the associated group can make a profit and so that the state will gain a definite economic benefit.

VI. Establishing an Equitable Economic Functional Structure

Rural establishment of a socialist collective economy was a correct choice made by the masses of Chinese peasants under leadership of the party. Following establishment of the collective economy how to put it on the track of a management system suited to circumstances in China has been a process requiring steady practice. For a long period of time the system whereby politics and communes have been linked has resulted in the management function in China's rural economy being overly centralized. This has inhibited giving full play to the enthusiasm of the peasant masses and of rural cadres, and abuses have been extremely obvious. But institution of production responsibliity systems has led to thoroughgoing changes in the rural management system. We devoted a lot of study and attention to these changes in Chuxian Prefecture.

1. Peasant Households Have Taken on Some Management Functions

The trend in rural Chuxian Prefecture that has aroused most attention during the past 2 years has been increase in the role of peasants in economic life. A considerable part of the function of managing the collective economy has been taken over by peasant households. These functions consist largely of the following:

First, direct organization of production and labor by contracts. This has included the following: arranging for the sequence of crops to be grown on contracted land; preparations for production (machine and draft animal power, seeds, fertilizer, pesticides); decisions about and implementation of technical measures to increase production; allocation of household work-forces to plowing, planting, tending, and harvesting; maintenance and use of machines and equipment; exchange of labor, etc. The situation in which a small number of cadres were relied upon to get planting and harvesting underway every season is over. Farm work is as tiring as ever, but life has a rhythm. By effectively using their sparetime, peasants are able to manage their household affairs more smoothly than formerly, go to market or see a play, visit relatives and call on friends, and study cultural knowledge and farming techniques. This helps greatly in improving reproduction and the quality of rural life. The tremendous all-around increase in agricultural production throughout the prefecture shows that the peasant household take over of these functions makes sense and is effective.

Second is accumulations. Accumulations that peasants have turned over to the collective are greater than in previous years. At the same time peasant households are engaged in accumulating themselves. In 1980, peasants in the prefecture put out their own money to buy 126 large and medium size tractors, 1,933 hand held tractors, 1,926 processing machines, 18 farm motor vehicles, and 25,298 plow oxen. In the same year production funds increased by 23 percent over the previous year, and this could not but greatly increase agricultural reproduction capacity. At the same time, peasant households invested funds to buy shares for participation in commune and brigade enterprise reproduction.

Third is credit. Banks are changing to make households the unit to which they grant credit. In Tianchang County, 24,000 households have set up credit accounts. Agricultural banks in all counties report that peasant household creditworthiness is much better than production team's had been. Dingyuan County formerly had 500,000 to 700,000 yuan in unrecoverable loans annually. In 1980 1.8 million yuan of loans were issued to peasant households and 1.87 million recovered the same year (700,000 yuan being old loans). Last year Jiashan County overfulfilled by 14 percent its loan repayment plan.

Fourth is distribution and supervision. The former overconcentration of the management system meant that a small number of people had too much power while the democratic rights of the peasant masses and lower level cadres were comparatively few. Some of the apathy about work of the peasant masses resulted from protest against this state of affairs. Moreover, the poverty ensuing from apathy about work made eating more and consuming more increasingly rampant in a vicious cycle. Today, once a peasant household has turned over to the state the amounts stipulated in contract agreements, all the remainder is its own. Thus, not only is the portion of total earnings that the peasants get greater, but the peasants can refuse to pay for unreasonable expenditures and prevent cadres from spending freely and wasting. This protects the fruits of the peasants' labors, protects collective property, and protects cadres.

As the economy develops, functions taken over by peasant households will also undergo change and new combinations will be formed. (1) Some peasant households already show a tendency to develop into specialized households. Survey of 20 different kinds of communes in the prefecture shows a 24.1 percent increase in 1980 as compared with the year before in income from peasant family sideline occupations. Quite a few peasant households actively farm economic crops from which earnings are relatively high (oil-bearing crops, mat grass, peppermint, mulberry, and hemp), engage in the breeding industry (cattle, sheep, hogs, poultry, rabbits, bees, fish, and silkworms), processing, hauling, small business, weaving, and services. The first signs of specialized division of labor have also begun to appear among peasant households. Some things requiring a fairly large amount of skill such as breeding, growing of seedlings, curing of tobacco, and the five rural crafts [masonry, carpentry, pastering, bricklaying, and bamboo work] have already begun to be taken over as specialities by some households. These changes will further expand the scope of peasant household operations, and will make for diversification a closer relationship among rural households and the entire society. (2) A large number of peasant households working on the principle of voluntary participation for mutual benefit have teamed up to contract commune and brigade enterprises such as individual peasant households would not be able to manage alone. With the surplus labor in households and accumulations of capital, some associated groups for which commune members have themselves put up the capital have come into being. Thus, differing forms of cooperative organizations are gradually becoming new economically beneficial entities. Not only do they engage in complex associations and exchanges with peasant households and other economic units, but also generate and produce within associated groups plans, management, distribution, accumulation and such new functions. Though peasant household association is embryonic today, it holds prospects for greater capacity and expanded development.

2. Necessary Collective Organization Management Function

After some economic functions have been transferred to peasant households, will the collective economic organization still have to be responsible for necessary economic functions? The answer is affirmative.

Existence of the collective economy is an objective necessity for development of the economy. A look at Chuxian Prefecture shows, first of all, an annual flow between cities and countryside of several hundred million yuan work of industrial and agricultural products. Only a collective economic organization is able to take on the exchange of goods with centralized industries and cities.

Secondly, that portion of agricultural skills that cannot be mastered and spread through the accumulation of experiences of individual peasant households is on the increase. More and more peasant households must obtain information about agricultural techniques. Only by banding together can the 600,000 peasant households in the prefecture obtain technical information smoothly. This accounts for the emergence of a flourishing of all levels of scientific farming organizations, scientific technique responsibility systems, model households for farming techniques, and peasant scientific societies.

Next, some regulatory functions related to the welfare of peasant households themselves such as "assistance to the poor," handling of quarrels about water use, readjustment of the land, etc., obviously require a structure and organization responsible for handling.

Finally, peasant households may not give serious attention to matters such as population increase, ecological balance, restrictions on use of cultivated land, things that pertain to macro-economic benefits, things that relate to the long range interests of all the people including peasants, and things in economic life that may frequently conflict with the immediate interests of the peasants. One could not expect that such matters would be managed entirely by peasant households themselves.

The foregoing several matters occur mostly in the indirect economic process. Even in the direct production realm, peasant households cannot take responsibility for all activities. For some matters, neither individual peasant households nor present associated groups of peasants have the strength to undertake. This includes things such as emergency resistance to disasters, construction of fairly large water conservancy projects. large scale native handicraft trade, etc. In some cases it does not pay for individual peasant households to do things; only with organization can they be profitably carried out, and this requires that the collective economy take responsibility.

All this has determined that even in Chuxian Prefecture, which has instituted large scale contracting of full responsibility for work tasks to individual households, the collective economic organization has not and cannot transfer to peasant households all of its economic functions. What has happened here has been transfer of only a portion of economic functions. To a fairly large extent, production policy decisions, operating strategies, and accounting continue to be the responsibility of the collective economic organization.

In addition, during the past more than 20 years both common property has been accumulated and common debts incurred. The two are a material bond that binds peasant households together.

All these connect and reflect the stratification and diversity of rural economic relationships. Today in Chuxian Prefecture, there are four major strata: (1) peasant households; (2) associated peasant entities; (3) state-owned or commune and brigade operated economic organizations; and (4) commune and brigade organizations directly interlinked with state organizations. No matter how large a portion of economic functions peasant households take over, they are still linked in these ways. All these links have as a premise the public ownership of land; all take place under guidance of state plans; and all are under the leadership of the party. Consequently, the sum total of these links comprise the existing socialist economic relationships of China's rural villages.

3. On the Economic Functional Structure

Practice has brought about an economic functional structure suited to circumstances in China's rural villages. Individual economic functions are largely undertaken by peasant households, peasant associated groups, communes and brigades, and the state in rural economic organizations. Through the establishment of individual functional organic links, coordination of the welfare of the country, the collective, and the peasants is realized.

In a certain sense, rural organizational problems are problems in establishment of an equitable functional structure.

Proceeding from the existing system and acting to depart from past practice whereby a small number of people monopolized economic functions, transferring to peasant households those things that can truly be undertaken by peasant households while having existing commune and brigade organizations more effectively undertake to carry out the remaining portion for a gradual change in the old structure and formation of a new structure is a path that can be taken for reform of China's rural system.

The problem facing Chuxian Prefecture right now is that once some economic functions have been effectively turned over to peasant households, how to take care of the other functions that peasant households are unable to be responsible for. Unless all strata and all parts of economic functions are well coordinated, the microscopic benefits already gained may be offset by the macroscopic ones. Therefore, following double contracting to individual households, all socio-economic management work has to be done truly well.

VII. Status of Rural Cadres

In China the job of managing the rural economy is largely the responsibility of commune and brigade cadres. Chuxian Prefecture has more than 83,000 commune and brigade cadres today. The prefecture, with a 2.95 million population or 604,000 peasant households engaged in agriculture has an average of one cadre per 35.2 people or 7.2 households. This cadre corps plays a particularly important role in protecting the fruits of rural economic reforms and in advancing its further development.

1. Rural Cadre Earnings

We surveyed the changed situation in economic income for 54 commune and brigade cadre households at different economic levels in Dingyuan, Fengyang, Jiashan, and Quanjiao counties, the results of which showed the following:

Average income for 35 commune cadre households as figured on the comparable portion of former collective distributions showed an increase from the 38.96 yuan prior to double contracting to individual households to 114.24 yuan in 1980, a 20.91 percent increase (not including individual cadre income from wages). The aforestated income for 12 production brigade cadre households rose from an average 64.87 yuan per capital to 171.24 yuan, a 163.97 percent increase.

The average per capita 295.50 yuan subsidy that production brigade cadres received and the 62.60 yuan that production team cadres received constitutes the current [character mission] level of rural cadre subsidies. Looked at in terms of the extent of income increases, for the prefecture as a whole average per capita income in 1980 was 56.1 percent higher than before double contacting to individual households. In the four aforementioned counties the extent of increase in per capita income was lower than the extent of increase in average per capita income in 54 cadre households. The reasons for the faster increase in commune and brigade cadre economic income were as follows: (1) Vastly increased amount of labor invested. Today cadres have really "dropped from the embankments between fields into the fields themselves" where they really work in earnest. Most production brigade and production team cadres put in 220 - 330 working days a year. (2) Cadres conduct liason over a wide area; they are well-informed; and they possess fairly strong administrative skills. (3) In the use of production conditions such as use of plow oxen, use of water, purchase of chemical fertilizers, making loans, and getting workers to help, they provide real services. For all these reasons, the double contracting to individual households rapidly turned into economic income for cadres.

For this reason, not only did double contracting to individual households cause no drastic impairment of commune and brigade cadre households, but rather they benefitted from double contracting to individual households. This has been a basic reason why the broad masses of cadres have adopted a positive and active attitude toward promotion of responsibility systems (including cadre personal responsibility systems), and it has also been an important experience whereby Chuxian Prefecture leaders have benefitted and double contracting to households has achieved remarkable results.

2. Quality of Rural Cadres

The above circumstances is not to say by any means that the state of ideology and work of the cadre corps already meets requirements following establishment of responsibility systems. After double contracting to individual households had been practiced for several years, in particular, numerous new problems that had never before been encountered cropped up in rural villages, and grassroots level rural cadres were by no means able to solve these problems very well. This gave rise to the unsuitability of cadre quality. In Jiashan County a commune secretary said, "Today minds are a little blank; work is a little lax; and numerous problems cannot be understood." According to a survey done by the Prefecture CPC Committee Organization Department of 68 committee members of a commune CPC Committee and 209 branch committee members of 41 production brigades, incompetent leaders at the two levels numbered 17.6 and 18.3 percents respectively, and those who did not know their jobs well amounted to 13.2 and 9.6 percent respectively.

Unsuitable cadre quality is harder to overcome than political opposition attitudes. This is because quality of management cadres is formed under certain historical conditions. Rural cultural levels in China are backward, and the "large in size and collective in nature system" [of communes], leftist errors, and the proliferation of political campaigns have all been bad for improvement in cadre management levels. Today when it is both necessary and possible to improve the quality of rural cadres, efforts are limited by the age and cultural level of these cadres. We compiled statistics on 11 communes in five counties and the organization departments of the Jiashan and Fengyang county CPC committees compiled statistics on 5,052 commune and brigade cadres in 80 communes, which found 9.7 percent to be illiterate, 50 percent to have a primary school education, and only 7 percent to have a higher than senior middle school cultural level. Those above 45 years old numbered 27.3 percent, and those who served as cadres during the period of land reform and the founding of cooperatives numbered 32.9 percent. The old age and low cultural level of rural grassroots cadres is striking. The cultural level of first tier commune cadres is fairly high (71.7 percent above the junior middle school level), but they tend to be old (51.3 percent over age 45). By comparison, production brigade and production team cadres are in the prime of life (78.3 percent being below age 45, 44.95 percent of these being under age 35), but their cultural level tends to be low (an illiteracy rate of 11.8 percent and 55 percent having only a primary school education); 66.8 percent of cadres became cadres during the "four clean-ups movement" [the period 1963 - 1966], and during the Great Cultural Revolution, and their cultural level is slightly higher and their ages slightly younger. However, the historical period in which they came to maturity was not conducive to formation of good quality.

3. Need for Relative Stability of Rural Cadre Corps

Is it possible to make large scale replacements of the existing cadre corps? In order to answer this question, we observed and studied how those with organizational ability in rural villages emerge, i.e., those with possibilities for replacing the present cadre corps.

First the number of cadres nationally who want to become commune cadres is extremely small. University and technical middle school graduates assigned to communes are even rarer birds, and most of them are discontent. Ability to come up from below is limited by city and town residence requirements; even if a person is able to transfer his residence registration to a city or a town, it is difficult for his family to do so. Tianchang County is able to change the household registration to cities and towns of only 40 to 50 people a year, but there are more than 500 applicants.

Second, production brigade and production team cadres are all locally produced, and rarely are exchanges between one place and another made. Their successors can only be local peasants. Following double contracting to individual households, peasant welfare became linked to household farming of contracted land, and the interest of young, strong peasants in the study of technology and in undertaking economic diversification became very great. But desires to become cadres to manage joint undertakings declined. Cadre "seedlings" that had been selected were difficult to promote to positions of leadership. When some "seedlings" saw their prospective "cultivators," they fled as far as they could go. In addition, almost all formerly chosen cadres came from among the activists in various campaigns, and now that there are no more campaigns how to spot and train peasants with organizational abilities for economic activities is a long way from being worked up into a method. The situation today is one of it being easy to issue commands to leave at once, but summoning return is difficult.

Third, within the cooperative and associated peasant groups it is possible to bring to maturation management cadres possessed of new qualities. However, this process, like the development of associated groups, requires a long time. Jiashan County is the place where associated peasant groups have developed fastest, yet the average scale of associated groups is only four to seven households. This shows that the organizational management work of associated groups is still fairly simple. In some fairly large scale economic contracting groups, collective enterprises, and trade warehouse, leaders are either present cadres or past cadres. In Lianbu Commune in Dingyuan County, the director of a tea farm jointly contracted by 24 households was a "company commander" in a commune during the militarization period of 1958. Key personnel in the commune trade warehouse were accountants during the time of cooperativization. The Gaogang Production Brigade Phosphate Fertilizer Plant manager was a former production team head. The director of the Nianjiagang Commune trade warehouse is a production brigade party branch secretary transferred by the commune. The manager of the integrated agricultural, industrial, and commercial company of Kaocheng Commune in Fengyang County is a CPC committee secretary in the same commune. This shows us that the source of new quality management personnel can only be principally from the existing cadre corps.

Facts have shown that with the institution of double contracting to individual households, fairly rapid growth took place in rural personnel versed in single kinds of work of a technical nature that was small in scale, but that it has been extraordinarily difficult to get people who are able to undertake comprehensive, fairly complicated organizational management work. Therefore, full use must be made of the favorable conditions created by peasants currently taking over some economic functions to reduce the overall management workload and train cadres, raise their economic management levels, and continuously bring in new blood. There is no other choice. Any unrealistic evaluations, decisions, and policies in this regard can produce an unfavorable impact on further development of the rural situation.

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PLANNING EMPHASIZED TO AVOID GLUTS, SHORTAGES IN LIVE HOG MARKETING

Beijing ZHONGGUO NONGMIN BAO in Chinese 26 Sep 82 p 1

[Article: "Improve Planned Marketing of Live Hogs in an Effort To Solve Peasant Difficulties in Selling Hogs"]

[Text] Frequently imbalance occurs in market supply and demand for live hog production. By this is meant that a large number of hogs are marketed during the peak period, but since market sales and commercial storage capacity is limited, not all the hogs that peasants want to sell can be accepted. As a result, to some extent peasants, experience "difficulty selling hogs." During the slack season, few hogs are marketed so market consumption requirements cannot be met. Commercial departments then have to mobilize the masses to sell hogs. Some comrades feel that it is difficult to understand why hogs are said to be numerous for a time and scarce for a time. Actually this is a reflection of the conflict between supply and demand that exists objectively in commercial work. In a situation in which lives hogs are substantially produced in countless dispersed households, it will not be easy to entirely circumvent this conflict within a short period of time.

Up until the time of the Third Plenary Session of the 11th Party Central Committee, growth in live hog production was unable to satisfy growth in consumption demand. After the Third Plenary Session, steady increase occured in the number of live hogs in inventory. The fattening period was generally shortened; the inventory removal rate increased markedly, and the amount of pork available greatly increased. When this happened, for a time seasonal and local peasant "difficulty in selling hogs" became fairly pronounced. As a result of the concern of the CPC Central Committee and the State Council, during the past several years commercial departments have intensified procurement, expanded marketing, built more cold storage facilities, and expanded storage in a series of measures taken to moderate year by year the contradiction of "difficulty in selling hogs." Nevertheless, in a small number of key hog producing counties, during the peak season of hog production, the cry of "difficulty in selling hogs" can still be heard.

Sole reliance on state-owned business procurement and storage to wrap up the problem is not a good way in which to solve the problem of peasant difficulty in selling hogs. The joint efforts of all departments concerned are necessary to improve planning in the marketing of live hogs.

First it is necessary to improve planning in removal of fattened hogs from inventory in order to avoid overconcentration during the peak season, and particularly during the hot months of June and July, of removal of fattened hogs from inventory. Nowadays some households that specialize in the breeding of hogs have begun to realize this. They plan the time for breeding of sows, the birth of shoats, and removal from inventory of fattened hogs, avoiding, insofar as possible, sales of fattened hogs during the stiflingly hot months of June and July. In essence, this amount to the application to the hog raising industry of "operations research," and "optimization," which should be vigorously encouraged. State-owned agricultural and livestock farms, collectively owned hog raising farms, households specializing in the raising of hogs, and key households can all do the same thing.

Second is detailed and solid work in live hog assigned procurement and planned procurement, in an effort to make purchases in a planned way to even out the market. This year commercial department signing of seasonal and monthly live hog purchase agreements with production teams or peasant households on the basis of assigned quotas and planned procurement quotas has played a definite role in the strengthening of planning. However, in some places, because there have been no fixed times established for sales in assigned procurement contracts, the peasants raise "quota hogs" during the first half of the year and "New Year's hogs" during the second half of the year. As a result, in these places during June and July markets "cannot get any," and during the last half of the year they "cannot take any." In some places production teams have not assigned state purchase quotas to individual households, so peasant sales of live hogs continue to lack planning. All this has to be conscientiously improved. In some places, once there is a surfeit of hogs commercial departments do not adhere to the effective and workable method of "going from door to door to inspect the hogs and setting up appointed times when they will purchase them"so as to avoid having the masses market their hogs blindly out of fear that they will be unable to sell them. Grassroots commercial staff and workers must persevere in going into the countryside to make purchases and to do a good job of publicity to set people's minds at ease. In places where a lot of buying and selling of hogs is done, commercial departments should also do a good job of organizational work for "earlier marketing" and "delayed sales" during the peak period, "evening out fluctuations," arranging marketing, and balancing purchases.

Third, looked at in long range terms, active development of lean hog types is necessary for gradual solution to the problem of insufficient lean pork and a surplus of fat pork. There are already considerable numbers of Landrace and large Yorkshire hogs everywhere, but because of the single kind of feed available for them, and commune and brigade bonus and price policies, and remuneration for collecting hog manure all encourage the raising of large fat hogs. As a result even lean pork type hogs have been turned into fat type hogs. This requires study and improvement from the standpoints of improved hog varieties, improved feeds, and perfection of economic policies in order to give impetus to rapid development of lean pork type hogs.

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CENTRALIZATION OF IRRIGATION IMPLEMENTED IN BAODING

Shijiazhuang HEBEI RIBAO in Chinese 24 Sep 82 p2

[Article: "Some Production Teams in Baoding Prefecture Set Up Irrigation Companies; Institute Independent Accounting, Centralized Management of Farmland Irrigation, and Solution to Problems of Commune Member Water Disputes"]

[Text] As part of the process of perfecting agricultural production responsibility systems, some production teams in Baoding Prefecture have set up irrigation companies (some are called pump well irrigation companies or specialized soil irrigation teams) with specific responsibility for irrigating the land. This has gained acceptance by the broad masses of commune members.

After 86.9 percent of production teams in Baoding Prefecture instituted responsibility systems whereby work responsibilities were assigned individual households, some new conflicts cropped up in irrigation. Matters such as calculation of compensation to pump well operators, collection of irrigation fees, and deciding the precedence of land to be irrigated all required equitable handling to meet the situation following institution of responsibility systems. In addition, after assignment of work responsibilities to individual households, some households purchased their own equipment for raising water. With the increase in such equipment, centralized use became impossible with the result that equipment lay idle and funds were wasted. Furthermore, the frequency with which equipment was moved around caused serious damage to water conservancy facilities. Individual households that had privately purchased machines were also free to use them as they liked, so instances occurred in which they hiked irrigation fees.

In order to solve these new conflicts, some production teams set up irrigation companies, transferring to the irrigation companies all collectively owned water conservancy facilities, pump wells, and water lifting equipment, the company being responsible for safeguarding them. Acting on the principle of voluntary participation for mutual benefit, privately owned water pumping equipment as well as the equipment operators were made a part of the company. Economically the company instituted independent accounting, responsibility for its own profits and losses, enterprise-style administration, and was responsible for management and use of all of the brigade's drainage and irrigation facilities, becoming responsible for the irrigation of all farmland. The irrigation company strengthened administration and management, instituted personal responsibility systems for machinery operators, and assigned fields for which operators would be responsible for watering. In general, production team leaders came to an agreement with individual households about the time when their fields would be watered on the basis of field plot water requirements. The irrigation companies registered each well and collected fees on a time basis. Some collected fees on the basis of kilowatt hours used, and some collected fees on the basis of the number of mu watered. Jiaozhuang Production Brigade in Anguo County has 22 pump wells, 22 diesel engines, and 22 electric motors. After the production brigade established a pump well irrigation company, the company took responsibility for irrigation of the brigade's entire 1,783 mu, charging a fee of 0.07 yuan per hour of irrigation. This included a depreciation fee of 0.07 yuan to be used for equipment replacement, public accumulation and public welfare funds amounting to 0.13 yuan, and a management fee of 0.06 yuan, the three totaling 0.26 yuan, an equipment maintenance and repair fee of 0.07 yuan, and a fuel and electricity fee of 0.27 yuan for a total of 0.44 yuan under control of the pump operator, any savings belonging to him. The 11 diesel engines that the Luohe Production Brigade in Rongcheng County had privately bought, as well as 11 operators, became a part of the brigade's irrigation company. They worked 10 hours daily for slightly more than 4 yuan. This was beneficial to the collective and no loss for anyone.

After experience over a period of time, all the brigade operated irrigation companies in Baoding Prefecture demonstrated their superiority. The companies' centralized responsibility for irrigation changed a tumultuous situation that had existed in which no one had been responsible for irrigation and in which disputes over wells and pre-empting of water had occured. This solved problems for commune members in getting irrigation water and a chaotic method or irrigation. As a result of the specialization of irrigation company activities, a saving in manpower, in equipment, in fuel and electricity were effected; irrigation costs were lowered; the irrigation cycle was shortened, and the pace of irrigation hastened for a reduction in peasant economic burdens and intensivity of labor. This helped collective production and development of individual household sideline occupations, and increased economic benefits.

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HEBEI

IDEAL TIMES FOR SOWING WINTER WHEAT IN HEBEI PROVINCE GIVEN

Shijiazhuang HEBEI RIBAO in Chinese 17 Sep 82 p 1

[Article: "The Right Time for Sowing Winter Wheat in Various Places"]

[Text] Sowing wheat at the right time is the key to development of sturdy seedlings and high yields, and whether sowing can be done on time or not is decided largely by accumulated temperatures before the onset of winter. If sowing is done too early or in years when the autumn is warm, if accumulated temperatures before the onset of winter amount to 700 degrees, the wheat seedlings may grow too vigorously. If, however, sowing is done too late or in years where the autumn is cold, accumulated temperatures before the onset of winter may be less than 100 degrees, and then weak seedlings may result.

An analysis of the long range weather forecast for the time when harvesting sowing and replanting will be done this fall shows a likelihood that total rainfall will be more than in most years, that the rain will be concentrated in the early period, that average monthly temperatures will be slightly lower than normal in September but close to normal in October, and that the first killing frost in most parts of the plain will come toward the end of the second 10 days period or early during the final 10 day period of October.

Analysis of the overall temperature trend shows that this fall will be a usual one, particularly that in wheat growing regions low soil moisture will be favorable. This year the most suitable time for sowing wheat will be about a day earlier than in most areas. In Shijiazhuang and Xingtai prefectures, the most suitable time will be between 24 September and 7 October. Wheat should be sown no earlier than 22 September at the earliest or no later than 14 October at the latest. In Tangshan and Langfang prefectures, the best time for sowing wheat will be between 29 September and 30 October. Sowing should not be done earlier than 17 September at earliest or later than 8 October at the latest. In Cangzhou and Hengshui prefectures, the most suitable time for the sowing of wheat will be between 23 September and 6 October. Planting should not be done any earlier than 21 September at the earliest or any later than 13 October at the latest. In Handan Prefecture, the most suitable time for sowing will be between 26 September and 9 October. Sowing should be no earlier than 23 September at the earliest and no later than 16 October at the latest. In Baoding Prefecture, the most suitable time for sowing will be between September and 3 October. Sowing should be done no earlier than 19 September at the earliest and no later than 10 October at the latest.

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BENEFITS OF FURROW SOWING OF WHEAT RECOGNIZED

Shijiazhuang HEBEI RIBAO in Chinese 24 Sep 82 p 1

[Article: "Remarkable Yield Increases From Forrow Sowing of Dryland Wheat in Experiments and Demonstrations Conducted by Hengshui Prefecture Agricultural Research Institute. Opens New Way To Increase Yields on Dryland, Infertile, and Saline-Alkaline Wheatfields. Province Makes It a Major Item for Demonstration and Promotion in Heilonggang Prefecture"]

[Text] Success has been achieved with new techniques for the sowing of wheat in furrows in arid areas that the Hengshui Prefecture Agricultural Institute has summarized, experimented with, demonstrated and promoted. Results of experiments at many sites over a period of 3 years have shown yields from the sowing of wheat in furrows to average 470 jin per mu, a 16.7 percent increase over flat sowing. In low yield wheatfields, the increase in yields was 26.6 percent, and in high yield wheatfields, it was 9.3 percent. During 1982 experiments were conducted at 29 places in the prefecture, increased yields occuring at 28 (at one place yields fell 1.3 percent). High, medium, and low yield wheatfields alike showed increased yields, the average yield increase being 23 percent. In low yield wheatfields, the increase amounted to 35 percent.

In order to develop a new situation in wheat production in Heilonggang Prefecture, to overcome aridity, soil infertility, salinity, freezing, hot dry winds and other natural disasters that occasion unfavorable conditions for wheat production in the prefecture, Hengshui Prefecture diligently summarized traditional experiences in the sowing of wheat in furrows during 1978, and began in 1979 to continue repeated experiments with this traditional experience. It further improved its summarization and study and verified that the sowing of wheat in furrows has overall effectiveness in combating drought and withstanding cold through retention of rain and snow, reduced evaporation, maintenance of soil moisture, avoidance of alkalinity, and improvement in the soil surface microclimate. It benefits wheat growth and development, and yields. Specifically:
1. sprouting rates are high, and a full stand of seedlings can be maintained. Furrow sowing parts the dry soil layer so that the seeds can effectively come in contact with the moist soil below to produce a high sprouting rate. At the Wukaihe Production Brigade in Hengshui County, on a plot of late wheat where soil moisutre was seriously

depleted, water content was less than 10 percent from 0 to 10 centimeters down, and the dry woil layer was 7 centimeters thick. When furrow sowing was done just once, a full stand of seedlings resulted, but the seedling growth rate was only 30 percent from flat sowing, and sprouting was 7 days late. 2. It can promote the strengthening of seedlings before the onset of winter. Because the wheat seedlings within the furrows are well covered and little exposed, and since there is little airflow exchange near the ground, evaporation from the soil is reduced. In addition, precipitation concentrates in the furrows so that marked improvement in soil moisture takes place in the soil from a depth of zero to 10 centimeters. Measurements taken before the onset of winter showed moisture content in the forrows of 14.5 percent, 3.13 percent more than the moisture content of soil where seeds were flat sown. In addition, average air temperature in furrows was between 0.5 and 1 degree higher than in flat sown soil. Consequently, for furrow-sown wheat, root growth and tillering increases by about one-fourth. Leaf surface and weight of dry material increases by one-third, and main stem, and leaves of main stems increase by 0.8 leaves. 3. seedlings are protected for overwintering, and they develop early and grow rapidly in spring. Since furrows are sheltered from the wind and exposed to the sun, direct blasts of cold wind on the seedlings are avoided. In addition, as sides of the furrows slip downward, tillering nodes become buried rather deep, accumulate rain and become filled with sonw, which helps the wheat sprouts overwinter. The winter of 1980 and 1981 had weather that killed large numbers of winter wheat seedlings. The seedlings death rate for flat sown wheat was 24.6 and 27.2 percent respectively, while the seedling death rate for furrow sown wheat was 17.2 and 12.6 percent respectively. Experimental data also show that furrow sown wheat greens up, starts to grown, and joints earlier than flat sown wheat. Fourth, furrow sowing promotes root system development, numbers, and size. Furrow sown wheat has from 597,000 to 1,996,000 more individual roots than flat sown wheat. Because the root system develops well, the wheat's resistance is increased, thereby bringing about an increase in spikes and an increase in grain, prevention of premature degeneration in the late stage, resistance to hot dry winds, and increase in grain weight.

Because furrow sown wheat techniques reduce, to a certain extent, damage from aridity, infertility, alkalinity, overwintering, and hot dry winds, it is able to increase wheat yields in dryland wheat growing areas. In April this year, the Chinese Academy of Agricultural Sciences, organized experts and scientific and technical personnel from the six provinces and municipalities of Hebei, Shandong, Hubei, Shaanxi, Beijing, and Tianjin to hold an on-site meeting for the exchange of experiences at Wukaihe Production Brigade in Hengshui County. Everyone gave full affirmation of the agronomical benefits of furrow sowing and prospects for its spread. They also decided on vigorous experimentation, demonstration, and promotion of furrow sowing in North China's wheat growing areas. The Provincial Wheat Work Conference decided to make it a major topic for demonostration and promotion in the province's Heilonggang Prefecture.

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CREDIT GIVEN RESPONSIBILITY SYSTEMS FOR PREFECTURE'S ECONOMIC IMPROVEMENT

Shijiazhuang HEBEI RIBAO in Chinese 21 Sep 82 p 1

[Article by Rural Work Department, Baoding Prefecture CPC Committee: "Agricultural Production Responsibility Systems Have Brought New Vitality to Baoding Prefecture"]

> [Text] Editor's Note: Eighty percent of production teams in Baoding Prefecture have instituted large scale assignment of responsibilities to individual households, and this year the area sown to wheat, though 560,000 mu less than last year, produced 150 million jin more wheat than last year. A comparison of the first half of this year with the same period last year shows output value of commune and brigade enterprises to be 15 percent greater, commune member income from household sideline occupations in the prefecture to be 12 percent greater,and agricultural use of diesel engines and tractors to have increased by 99 and 33 percent respectively.

Since the Third Plenary Session of the 11th Party Central Committee, Baoding Prefecture's production responsibility systems have grown rapidly. Eighty percent of production teams throughout the prefecture have instituted responsibility systems of large scale assignment of responsibilities to individual households, which have brought new vitality to agriculture. This year, despite a 560,000 mu reduction in the area sown to wheat, output increased 150 million jin. Comparison of the first half of this year with the same periods last year shows a 15 percent increase in output value of commune and brigade enterprises, a 12 percent increase in commune member income from household sideline occupations, and an increase in agricultural use of diesel engines, tractors, and water pumps of 99, 33 and 180 percent respectively.

In the process of implementing responsibility systems whereby work responsibilities are assigned individual households, the broad masses of cadres and commune members proceeded from realities, centralizing that which lent itself to centralization and decentralizing that which lent itself to decentralization. They generally instituted the centralization of planting, sowing, and watering, and this not only brought into play the superiority of the collective economy but also reduced intensivity of peasant labor and very greatly changed production conditions. During spring and summer this year, the entire prefecture experienced a drought such as has rarely occured. The water table fell by a general 3 to 6 meters, and cadres and commune members relied on the collective and on the pooled wisdom and efforts of everyone to sink more than 6,000 wells, to dig more than 50,000 indigenous style wells, and to buy more than 8,000 pieces of equipment for raising water. The prefecture expanded its irrigated area by more than 50,000 mu to assure the on-time watering of its large wheat area. This year both the prefecture's yields per unit of area and total output were higher than last year by 8 and 7 percent respectively. Moreover the increases in yields were even. Low yield counties having yields of less than 200 jin per mu fell from last year's seven to four. State purchase quotas were fulfilled with 184 million jin of grain for a 2.2 percent overfulfillment.

Institution of production responsibility systems promoted development of household sideline occupations and commune and brugade enterprises, increased peasant income, and enlivened rural markets. For the first half of this year, workforces engaged in commune and brigade industrial sideline occupations in the prefecture increased by more than 20,000 people over the same period last year, and income increased by more than 10 million yuan. Following assignment of agricultural work responsibility to individual households, a "craze for livestock breeding" occured throughout the prefecture. Statistics from quarters concerned show that as of the end of June this year, the prefecture's hogs numbered 1.73 million for a 5.9 percent increase over the same period last year. Domestic fowl such as chickens, ducks, and geese numbered 15.27 million, a 76 percent increase over the same period last year. Specialized households and key households engaged in the breeding of livestock in the prefecture totaled 13,755. With the development of economic diversification, peasant income increased tremendously. Rural savings accounts for the first half of this year increased by 35 percent over the same period last year. Rural markets were brisk; there was a plentiful supply of goods, and business was good. For the first half of this year, country fair transactions totaled more than 100 million yuan, an 11.5 percent increase over the same period last year.

Production responsibility systems also gave impetus to development of agricultural science and technology. Rural village throughout the prefecture formed a network for promotion of agricultural techniques centering around agricultural science households. These networks gradually linked traditional production experiences to modern science for full play of the inherent potential that the land and the workforce contain to assure increased yields and increased income from crops.

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DEVELOPMENT OF PELLITIZING MACHINE FOR SUGARBEET DROSS REPORTED

Beijing RENMIN RIBAO in Chinese 24 Sep 82 p 1

[Article: "Nationally Produced Pellitizing Machine Successfully Manufactured; Sugarbeet Dross Becomes a Treasure. Sugar Refinery With Daily Output of 1,500 Tons Can Pellitize 80 Tons of Dross for Annual Earnings of 2.3 Million Yuan"]

[Text] The Haerbin Oxygen Machine Manufacturing Plant has developed a machine to pellitize sugarbeet dross, which will convert sugarbeet dross that had formerly been thrown away into a treasure.

The pellitizing machine is a piece of equipment that uses the waste (sugarbeet dross) resulting from the processing of sugarbeet raw materials by sugar refineries. Except for a small portion that had formerly been fed to livestock, the large quantity of waste that sugar refineries produced daily had been thrown away for the most part. After a time it rotted and stank, polluted the environment, and endangered human health. A survey has shown that in Heilongjiang Province alone annually such waste amounted to more than 2.7 million tons. If a pellitizing machine were used to compress it into dry pellet residue, it could be easily transported and stored, and it would make an extremely good feed for livestock. Sometimes, some of it might be exported as well. As an export price of 160 yuan per ton of pellitized residue, what with the daily pellitizing of 80 tons of residue by a sugarbeet refinery with a daily output of 1,500 tons of sugar, 2.30 million yuan could be earned annually and economic benefits would be quite impressive.

The Haerbin Oxygen Machine Manufacturing Plant actively served the sugar industry and in less than a year's time successfully developed the Type KL 2 pellitizing machine for the Heilongjiang Sugar Industry Company. Heilongjiang Province's Machinery Bureau and Sugar Industry Company organized 24 units to provide an evaluation. The evaluation team believes that the pellitizing machine developed by this plant is attractive and in good taste, that it operates reliably, that its operation and maintenance are convenient, and that its performance substantially meets design requirements.

China's sugar refineries imported a set of Japanese pelletizing equipment (two pellitizing machines, one cooling machine, and one sifting machine) at a cost of 480,000 yuan. The same set of equipment made by the Haerbin Oxygen Machine Manufacturing Plant has an ex-factory price of 156,000 yuan; furthermore spare parts can be provided promptly, the prices are cheap, and the plant can send people to install and regulate the equipment. Consequently it is readily accepted by customers. As of now the plant has delivered 12 machines, which are in use with very good results in several major sugar refineries in Haerbin, Qiqihar, Jiamusi, and Acheng in Heilong Province.

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HENAN

MAJOR EFFORT TO INCREASE WHEAT OUTPUT REPORTED

Beijing RENMIN RIBAO in Chinese 10 Oct 82 p 2

[Article: "Henan Province Fall Wheat Sowing Area Large and Quality Good. Encouraged by Spirit of 12th Party Central Committee, People's Minds Are at East and Their Enthusiasm for Production High"]

[Text] The vast Henan heartland has now entered the extremely busy season of fall sowing. In the major wheat growing areas o Zhoukou, Xinxiang, Luoyang, and Kaifeng, as well as in the rural suburbs of Zhengzhou, the masses of peanants, encouraged by the spirit of the 12th Party Central Committee, have carefully chosen fine varieties of seeds, spread copious quantities of manure, and the area sown to wheat this fall is greater and quality better than in the past.

This year, everywhere in Henan Province a craze for hurried exchange of superior variety seeds has taken place. Eac time seed stations have brought in a shipment of superior variety seeds, peasants have arrived in droves from all over as though going to a fair. Recently the Luoning County Superior Varieties Station brought in more than 500,000 jin of superior variety seeds. No sooner were they inside the station gate than they were snatched up in exchange for other grain until no more remained. "No planting of anything but superior varieties" has become the overwhelming desire of the broad masses of peasants in developing wheat production. Selection of the best from among superior varieties, and careful removal from superior varieties of any seeds that are not superior varieties, has become a conscious action by peasants in most areas to get high wheat yields.

At the same time, this year Henan peasant zeal for collecting manure, composting manure, and buying fertilizer has also been unprecedented. Arriving at a commune or brigade, one sees barnyard manure piled everywhere in front of and behind houses, inside and outside villages, along roads, and at the edges of fields. On some fields that have already been plowed and harrowed for the first time, barnyard manure has been spread with every step and now a dark black layer covers the fields. A peasant who had contracted land said, "When fertilizing used to be done, to tell the truth it was a case of moving soil from one place to another. Last year people still feared that policies might change, so the quality of crude manure was very poor, but this yeear the manure is the real thing." "The government has called for more fertilization to grow more grain. I put down more than 6 cubic meters per mu of crude manure, 100 jin of ammonium carbonate, and 120 jin of phosphate fertilizer as base fertilizer, so there is probably no doubt about harvesting a bumper crop!" A survey done at Zhidian Commune in Chenqiu County showed each household had put down more than 4 cubic meters per mu of crude manure, and between 100 to 120 jin or more of ammonium carbonate and phosphate fertilizer. Actual amount of fertilizer used increased by about one-third over last year. In recent years benefits have been considerable from the use of phosphate fertilizer by numerous people, and phosphate fertilizer has become the means of production in shortest supply everywhere. This year, even though the quantities brought in by the state and purchased by people themselves have been vastly more than in previous years, the scramble to buy phosphate fertilizer can still be seen everywhere.

This year the area sown to wheat in Henan is larger than in any previous year. The peasants say, "Henan is a wheat growing area, so we have to do everything possible to sow more wheat." In Zhoukou Prefecture, for example, wheat has been sown on fields where spring sweet potatoes were to have been grown, and wheat and cotton have been intercropped on the spring cottonfield area. In addition, the 10 besides [beside houses, roads, streams, villages, etc] have been readied and ponds have been filled in for a very great increase in the actual area sown to wheat. This prefecture's planned wheat growing area has been increased to more than 8 million mu this year, an increase by about 500,000 mu over last year. The wheat growing area of other prefectures has also been expanded to varying degrees. In order to get high wheat yields, everywhere in Henan this year attention has been given intensive farming. Peasants have plowed and replowed wheatfields, and harrowed and reharrowed them. Some have required three cultivations and nine rakings. Some plots have been made level and the soil pulverized. In many places, in the process of cultivating and raking, pesticides have been applied against locally occuring insects. This year fertilization has been done differently than in past years as well. Not only has fertilization with nitrogenous, phosphate, and potash fertilizer been required for each plot, but balanced use of the three has also received attention. Formerly not enough attention was given base fertilizer, but this year great attention was devoted to the amount of base fertilizer put down. In Chenqiu County, for example, to make up soil fertility deficiencies and to meet needs for increased yields, this year it was proposed that a "1, 1, 3, 4" per mu average base fertilization be given (with individual variations for field plots in practice), by which was meant 100 jin of ammonium carbonate, 100 jin of phosphate fertilizer, 30 jin of urea, and 4 cubic meters of barnyard manure, both to assure full stands of sturdy seedlings, and to lay a foundation of normal growth of wheat seedlings next year.

9432
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FRESHWATER FISHING INDUSTRY RAPIDLY DEVELOPING

Beijing RENMIN RIBAO in Chinese 21 Sep 82 p 2

[Article: "High Speed, Highly Beneficial Development of Hubei's Freshwater Fishing Industry"]

> [Text] Editor's Note: The issues this report raises on good handling of several relationships in development of a freshwater fishing industry can set people to thinking. Facts have shown that all that is needed is a clear guiding idea for good handling of these relationships and implementation of measures to increase output, and then the freshwater fishing industry can develop at high speed for high benefits.

Hubei has been often called the "province of 1,000 lakes." The climate here is temperate, rainfall copious; the land is traversed by streams; and the area is densely covered with lakes and reservoirs. Water surfaces usable for bleeding amount to one-tenth the national amount of inland waterways usable for breeding. It is a major freshwater fishery area in China. Following the 3d Plenum of the 11th Party Central Committee, the province's fishing industry developed very quickly. Last year gross output of aquatic products amounted to more than 300 million jin for a revival of the all-time highest level. Average rate of growth during the past 3 years has been 11.1 percent. Counties in the province having an annual output of more than 5 million jin have increased from 14 before 1978 to last year's 23. The 10 years of turmoil caused damage to the fishing industry, but after 3 years of effort, the long standing fluctuation in output has been brought to an end.

Today, following diligent study and investigation, the provincial aquatic products sector has decided to handle several relationships well, thereby enabling high speed, highly beneficial development of the freshwater fishing industry. These relationships are as follows:

The relationship with state-owned fishing industry and the fishing industry owned by the masses. As a result of "leftist" influence and investment in construction, for a long time numerous comrades have given comparatively more attention to the state-owned fishing industry. Now, while taking firmly in hand development of the state-owned fishing industry, they have shifted the focus to the fishing industry owned by the masses including the breeding of fish by communes and brigades, commune members, and social organizations.

This is because of the following: First, more than 80 percent of the more than 300 million jin of fish produced in the province came from the rearing of fish by the masses. Second, from an investment standpoint, the state must underwrite the state-owned fishing industry in entirety, while the collective fishing industry requires an assistance kind of investment. When commune members and social organizations rear fish, the state is required to provide virtually no money. Third, only through an expansion of commune member rearing of fish can peasants, who comprise more than 80 percent of the population, have fish to eat, and only then can the state-owned fishing industry supply larger amounts of aquatic products to cities, towns, industries, and mines. Fourth, development of the mass fishing industry helps improve the natural environment, accommodates production and the daily life of the masses, and enlivens city and countryside markets. Fifth, development of the mass fishing industry helps stabilize the state-owned fishing industry's proprietary rights over water surfaces, maintains order in production of lake and reservoir areas, and truly achieves increased production, increased incomes, and increased contributions.

Relationship Among Large, Medium Size and Small Water Surfaces. For many years most large water surfaces have lay in a state of disuse or low production. The reason is that large water surfaces have three problems difficult of solution. One is that the administrative system cuts across lines and conflicts exist between fisheries and agriculture, and between the state (owned enterprises) and the masses (operations). Second, fish breeding ponds, the equipment required to pen fish in, and dike locks and stations all require a great investment for construction and equipment. Third production programs in fishery areas are in a shambles. Some comrades say that large water surface production consists of "a figuring of accounts that is gladdening, doing work that is wearing, and trying to raise output that is infuriating." Consequently, intensive raising for high yields on small water surfaces has to be the principal direction of attack, with intensive raising being paramount and use of small water surfaces for intensive raising being paramount. At the same time there can be no relaxation in management and utilization of large water surfaces.

Relationship Between Extensive Rearing and Intensive Rearing. In most places in Hubei Province, an extensive low yield situation has existed right up to the present of "release the fry and watch them grow; catch large and small till there are no more." Average yields for the province's more than 1 million mu of ponds has been only a little more than 100 jin per mu, lower than that of Guangdong and Hunan. About 40 counties in the province have pond surfaces of more than 300,000 mu. In Jingmen and Sui Counties, there are more than 100,000 mu, and potential is very great. In order to raise pond fish yields, it will be necessary, first of all, to change the present breeding of silver carp as the predominant fish so that herbivorous fish varieties with "heads that hang down" will be changed to fish with "big heads." Second is changes in the composition of fish food. Grass has to be grown to rear fish, turning grass into meat. Third is a good job of fish disease prevention and control work; and fourth is companion rearing of fish at separate levels in the water, and rotating catches with releases of fry.

Relationship Between Fish Rearing and Economic Diversification. It is necessary to proceed from water surface realities, setting up fisheries in places suited for fisheries, growing lotus in places suited to the growing of lotus, rearing fish in places suited for rearing, and using varieties suited to particular areas, striving to make the water surface breeding industry and the water surface growing industry thrive at the same time. Some communes and brigades have planted mulberry trees on pond banks and on fields growing feed to combine fisheries with the growing of mulberry. The pond mud fertilizes the mulberry; the mulberry leaves feed silkworms; and the silkworm excrement feeds fish for fairly good economic results. If all the province's several hundred thousand mu of continuous tract fish ponds did this, they would become a very large fishing industry base, silkworm mulberry base, and feed base. In this way, income amounts to several hundred yuan per mu of water surface, or even as much as 1,000 yuan. In addition, water surfaces may be used for development of pearl production.

Relationship Between State Plans and Market Regulation. The Hubei aquatic products sector believes that in studying aquatic products procurement and marketing policies, the basis should be to take the planned economy as the key link with market regulation being supplementary, and that state procurement quotas should be established for state-owned fishery farms, specialized communes and brigades, and commodity fish bases. Following fulfillment of state purchase quotas, production units should be allowed to dispose of surplus fish products in accordance with market management regulations. For communes and brigades, commune members, and social organizations, however, there should be no purchase quotas for the rearing of fish.

Right now Hubei's freshwater fishing industry is in good shape. As of the end of July, fresh fish output for the province was 11.8 percent greater than for the same period last year and purchases increased 27.3 percent. Amounts turned over to the state increased 15.6 percent and exports increased 10.5 percent. The rearing area increased 11.7 percent, and fingerlings released increased 13.9 percent. Especially heartening is that raising of fish by rural commune member households grew from 400,000 households last year to 520,000 households this year, and the breeding area expanded from somewhat more than 140,000 mu to 210,000 mu. In the commodity fish bases located along the Chang Jiang and both banks of the Hanshui, fish growth is heartening. In Honghu and Mianyang Counties, about one-third of the fishbase ponds have yields of 400 jin per mu. Both the state-owned fishing and suburban rearing of fish has developed substantially. Provincial Aquatic Products Bureau deputy director, Ma Jamin [7456 4949 3046] told reporters: "Attainment of the combat goal of an output of 1 billion jin of fresh fish for Hubei by the end of the century is an extremely formidable task; however, so long as guiding ideas are clear and all of the foregoing relationships handled well, policies and programs correct, and measures for increasing output solidly based, Hubei's freshwater fishing industry will certainly be able to develop at high speed and highly beneficially."

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INCREASE IN PEASANT SPENDING REPORTED

Beijing RENMIN RIBAO in Chinese 14 Oct 82 p 2

[Article: "Marked Increase in Peasant Purchasing Power in Liaocheng Prefecture. Jump in Sales of Means of Production and Means of Livelihood; Name Brand Goods Even Better Received"]

[Text] Rural markets in Liaocheng Prefecture in Shandong Province are unprecedently busy today. Peasant purchases of means of livelihood and means of production have spurted, and name brand goods are even better received.

Liaocheng Prefecture has been a notorious poverty stricken area in the country where peasant purchasing power has been very low. In recent years, peasant income has risen remarkably. In 1981 gross income from agriculture in the prefecture was more than 1.0 billion yuan and per capita distributions averaged 176 yuan. Commune member savings amounted to more than 160 million yuan, 10.1 times more than in 1978.

Most of the well-heeled peasants put purchases of the means of production in first place. According to statistics from the prefecture's supply and marketing system, total sales of the means of production were 40.7 greater in 1981 than in 1978, an increase of 40.7 percent. This included chemical fertilizer, pesticide devices, and medium and small farm implements, increase in the sale of which was fairly great. Peasant households buying farm machines and large livestock animals were also fairly common. The selection of peasant purchases of the means of production was also improved. With the launching of scientific farming and more careful attention to economic benefits, high nitrogen urea and phosphate fertilizer were in short supply, and highly effective pesticides of low residual toxicity were far from meeting peasant demand. Twelve horsepower tractors, which formerly sold poorly, became "hot items" liked by the peasants.

Last year sales of the means of livelihoodin Liaocheng Prefecture reached more than 640 million yuan or 70 percent of total retail sales of social commodities. Among purchases, high quality durable consumer goods and name brand goods particularly characterized current purchases of the means of livelihood in Liaocheng Prefecture. Beer, bottled wine, canned goods, and such medium and high quality goods, which had formerly found markets only in cities, now sell well in rural villages as well.

9432
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YUNCHENG PREFECTURE MAKING PROGRESS TO INSURE BUMPER WHEAT HARVEST

Beijing ZHONGGUO NONGMIN BAO in Chinese 23 Sep 82 p 1

[Article: "Progress Rapid and Quality High in Yuncheng Prefecture Preparations for Fall Sowing, Powered by Spirit of 12th Party Central Committee"]

[Text] Yuncheng Prefecture is one of the principal wheat growing regions of Shanxi Province. Ths year witnessed "three overs" in the growing of 5.4 million mu of wheat as follows: 15.4 percent over last year, 18.9 percent over plan, 10.4 percent over the all-time high. The broad masses faces are wreathed in smiles. Upon hearing again during the 12th party Central Committee a reiteration that responsibility systems would endure without change for a long time, both cadres and commune members are more at ease. Each county further perfected various forms of production responsibility systems making them fit local circumstances more closely. Production teams practicing responsibility systems of "double contracting" [contracting to households both responsibility for fixed output quotas and completion of assigned work tasks] increased from 88.4 percent before the wheat harvest to 95.4 percent.

Inasmuch as the broad masses of people have sufficient zeal and great determination for the winning of a bumper wheat harvest next year, the entire prefecture has laid a fine foundation for a bumper wheat harvest next year. One is that much fertilizer has been made ready. Barnyard manure averages 3.98 cartloads per mu, 0.3 cartloads more than last year. Nitrogenous fertilizer averages 30.1 jin per mu, 9.4 jin more than last year. Phosphate fertilizer averages 24.4 jin per mu, 11.3 jin more than last year. Second is an increase in the deep-plowed area. About 3 million of the 3.68 million mu of the first crop wheatfields have been deeply plowed. This is more than 900,000 mu more than last year. Third is a greater area put in proper farming condition. The wheatfield area that has been carefully leveled amounts to 1.1 million mu, more than double last year's amount. Four is light cultivation and harrowing a larger number of times. Fifth is sufficient quantities of wheat seeds have been prepared and the quantity of select seeds is larger than last year. Throughout the prefecture, 56,280 "science and technology households," "associated households," and "key households," have undergone training to improve their skills so that wheat growing techniques will be spread from one neighbor to another to myriad households. In addition, departments concerned in prefectures and counties have printed large amounts of data about wheat growing techniques, and training classes have been run at every level. Training at the county, commune, and brigade levels in the prefecture has been given more than 520,000 attendees, more than in any other year.

9432
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DEVELOPMENT OF DRYLAND CROP AGRICULTURE DISCUSSED

Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 8, 1982 p 2

[Article by Liu Jie [0491 2638] and Guo Jinyu [6758 6855 3768] of the Agricultural Resources and Zoning Institute of the Shanxi Provincial Academy of Agricultural Sciences: "Exploring the Ways to Develop the Agriculture of Dryland Crops"]

[Text] Since ancient times, agriculture in Shanxi has mainly been an agriculture of dryland crops. Since liberation, although the wetland areas have developed greatly, the proportion of dryland-crop agriculture is still absolutely dominant. Bumper harvests or deficient harvests are determined to a large degree by rainfall. When the weather is favorable, agriculture will produce bumper harvests. When severe drought occurs, the output drops. Therefore, how to manage the dryland-crop agriculture has become a strategic problem in increasing agricultural output in Shanxi.

I. The Characteristics of Dryland-Crop Agriculture in Shanxi

There are four types of arid soil conditions in the world: Seasonal aridity of the tropics, tropical semi-aridity, subtropical semi-aridity, mid-latitude aridity and semi-aridity. The arid regions in Shanxi Province belong to the fourth type characterized by the following: Cold and warm seasons are clearly separated. Rainfall in the semi-arid regions is consistent with the rainfall in the warm seasons, but variation between years and between seasons is great. The standard annual rainfall lies between a lower limit of above 250 millimeters and an upper limit of 450 to 600 millimeters. The actually effective rainfall in Shanxi (natural rainfall minus runoff) is generally between 450 and 550 millimeters in the southeastern part and in some mountainous regions in the province and between 400 and 480 millimeters in other central and southern regions in the Province. It is between 350 and 400 millimeters in the northern regions. Generally, the annual supply rate of water (effective rainfall/total consumption of water) can at various times reach 55 percent and 90 percent. The water supply rate in river basins and low hilly regions is the porrest, while it is higher in the high mountain regions and the southeastern regions. Shanxi is a rather typical arid and semi-arid region.

Drought in Shanxi occurs most frequently in the spring. This has been the characteristic of drought in Shanxi for a long period. The so-called "9 years of drought out of every 10 years" mostly refers to the occurrence of spring drought. Since 1972, spring drought has caused damage to varying degrees almost every year. But this type of spring drought does not greatly affect the yield of autumn crops as long as moisture is conserved in winter and spring, seeds can be sown and the seedlings are managed well.

Summer drought generally causes lighter damage. From the last 10 days of May to the middle 10 days of June, a period when the growth of seedlings of autumn-sown crops is restrained, damage by drought is generally not large. Where summer drought occurs, there is the saying that "money cannot buy May drought, but when overcast weather continues in June, there will be alot to eat". This notwithstanding, however, if summer drought persists for a long time, it will also cause serious damage, therefore there is the saying that "summer drought reduces output by half." In Yuncheng and Linfen Basin in the south, summer drought occurs more frequently, while in Taiyuan, Xinding Basin and in some hilly regions of constant aridity, drought occurs less frequently.

Summer drought mostly occurs in the central and southern parts of Shanxi, and the frequency is higher especially in the southern regions. From 1972 to 1979, the southern regions all suffered from severe summer drought, affecting the heading of summer sown crops and the forming of cotton bolls. The local people call this the "choking drought." The frequency of autumn drought is smaller. In recent years, it has mainly affected the sowing of wheat and the development of wheat seedlings in the south and but it has not affected other crops much.

II. The Cause of Low Yields of Dryland Crops

At present, the agricultural yeild of dryland crops is not high. There are mainly three reasons:

1. The land is infertile and there are fewer fertilizers. As a result, there is limited utilization of rain water. The low agricultural yield in drylands in ordinary years seems to be due to a lack of water, but actually it is due to a lack of fertilizers. The fundamental environmental factors for agricultural production are the five indispe6sable elements of light, heat, water, fertilizer and air. None of the five can be missing and one cannot replace the other. Whether the yield is high or low is determined by the lowest determining elements. The three elements of light, heat and air above, under present conditions of agricultural production, can satisfy the needs for producing a thousand jin or several thousand jin. But only the two elements of water and fertilizers are the determining factors in agricultural production. According to experiments and the output of advanced commune brigades, the amount of rain in an ordinary year is 400 to 500 millimeters, sufficient to produce 400 to 500 jin of output over large areas. But in reality, why have we been unable to reach this level? It is mainly because of insufficient

fertilizers and the deficiency of nutrients in the soil. According to the results of general surveys of the soil, only 25 percent of the total area of cultivated land throughout the province consist of soil with an organic content of over 1 percent, 40 percent of the land consists of soil with an organic content of over 0.5 percent, and the remaining 1/3 of the area consists of soil with an organic content below 0.5 percent. According to the results of general soil surveys conducted in the southeastern part of Shanxi, the nitrogen content of each mu of first grade soil is 10.1 jin, the phosphorus content is 5.1 jin. The nitrogen content in second grade soil is 8.7 jin, the phosphorus content is 2.7 jin. The nitrogen content in third grade soil is 7.7 jin and the phoshorus content is 2.5 jin. The deficiency of nitrogenous and phosphorous fertilizers is the determining factor here. Especially in dryland crop agriculture, phosphorous fertilizer is even more so, the main determining factor. Therefore, the fundamental solution in dryland crop agriculture is first to cultivate the fertility of the land, increase the content of organic substances and nitrogen and phosphorus in the soil and correspondingly use fertilizer to modify water and use water and fertilizer complementarily in cultivation.

2. Planting management is careless and the only available amount of rainfall is wasted. The high output experience of the masses over many years is "three tilling, six raking, nine hoeing and drilling." There is also the saying "one plow for wheat harvests and one hoe for autumn harvests." The reason that the output of many communes and brigades is low is closely related to a lack of "three tilling, six raking, and nine hoeing and drilling experience." At some places, the fields are only worked twice a year or three times a year, i.e.: Ploughing and sowing in spring and harvesting in autumn. Some places do better; adding a mid-tilling in between the spring sowing and autumn harvesting. A large amount of water is lost because the fields could not be tilled deeply to store water and water evaporates because the fields could not be raked. Weeds grow uniformly because mid-tilling could not be done in time, causing most of the several hundred millimeters of rain that have already fallen on the cultivated land to evaporate from the empty fields and from between plants.

3. Serious soil erosion carried away large amounts of water and soil fertility. Over 80 percent of the regions of dryland crops in Shanxi are mountainous. In most places, soil erosion is serious. This is the direct cause of soil infertility and aridity. Soil erosion caused serious erosion of the ground surface, soil fertility dropped, and the ability of the soil to store and retain water and moisture dropped. According to measurements made by the Shanxi Provincial Water Conservancy Institute, each ton of soil of the 0 to 15-centimeter soil ayer on slopelands in western Shanxi contains 0.346 kilogram of whole nitrogen, 0.668 kilogram of whole phosphorus and 16.6 kilograms of whole potassium. The amount of fertilizers in the soil lost in soil erosion in western Shanxi, if calculated in terms of chemical fertilizers, was equivalent to 480,000 tons of ammonium sulphide, 2152,000 tons of calcium superphosphate, 12,095,000 tons of potassium sulphate. This is an important reason why the soil in the loess hilly regions is infertile, its ability to store water is poor and the yield is low.

III. Important Ways to Increase Agricultural Yield of Dryland Crops

Generally speaking, our nation's agriculture of dryland crops has three major characteristics: One is organic agriculture, the second is highly refined tilling and planting, the third is man-made agriculture consisting mainly of terrace fields and farmland encircled by ditches. These three aspects have contributed greatly to world agriculture. Future development of the agriculture of dryland crops can be further improved based on these three foundations and by combining the advanced techniques of other nations of the world to open up a way for agricultural development suitable to our nation's actual situation.

1. We must open a way that combines organic agriculture and inorganic agriculture. "One water buffalo equals half an acre of farmland" has been our typical road in organic agriculture for thousands of years. The draft ox has been the main driving force in agriculture. Human and animal excrement and straws have been the source of fertilizers. The cycle of bioenergy will never be exhausted. The more it is used, the more it expands. To develop animal husbandry and improve soil fertility, southern Shanxi which is the main cotton and wheat producing region, has implemented the rotation planting system combining alfalfa, peas and cotton and wheat. This has enabled superior species of the large water buffalo to develop in southern Shanxi and also guaranteed the continued increase in soil fertility. In western Shanxi and northwestern Shanxi where there are fewer people and more land, the rotation planting system of pease flat beans and food grains and oil bearing crops has been implemented according to plans. Central Shanxi and southeastern Shanxi have widely used the system of interplanting and rotation planting of graminaceous crops and leguminaceous crops. This has served a good function in improving soil fertility and increasing the nutrients and organic substances in the soil.

The practice of combining agriculture and animal husbandry, the reverse cropping system of rotation planting and interplanting of leguminous grazing grasses and graminaceous crops, soaking of straw and returning it to the fields have constituted our traditional organic agriculture. As our nation's industry develops, petroleum-based agriculture, consisting mainly of the tractor and chemical fertilizers, has played a huge role in the agricultural system. The yield per unit area in the production of food grains in Shanxi Province has improved as the use of chemical fertilizers increased, and this has correspondingly increased the amount of straw and roots by the same percentage. After the straw was returned to the fields directly or indirectly, it again stimulated the increase of organic substances in the soil and increased the various effective nutrients in the soil. Therefore, we should follow the path of "using the organic to guarantee the inorganic, using the inorganic to stimulate the organic" in improving fertility. This means, we must follow the path of combining organic agriculture and inorganic agriculture. Some problems still exist in the application of chemical fertilizers at present. For example, some high yielding communes and brigades apply too much chemical fertilizer and this greatly increases production costs. Certain commune brigades neglect the accumulation and application of farm manure. The proportion of nitrogen and phosphorus is imbalanced. Thereare also problems with improper storage, management and utilization. Applying less chemical fertilizer or none at all will not solve these problems. We must find a proportional relationship between carbon and nitrogen, for the application of nitrogen, phosphorus and potassium, and between organic nitrogen and inorganic nitrogen. Only when proportionally balanced fertilizers and apples, can we avoid destroying soil fertility due to excessive application of nitrogen fertilizers. At present, an important problem in organic fertilizers is to quickly solve the problem of fuel in farm villages. Shanxi has the richest coal resources. Over 70 percent of the region produces coal. Therefore, exchanging coal for straw and returning straw to the fields directly and indirectly to improve soil fertility, and increase the output of food grains and other agricultural crops are more economical than using coal directly to exchange for agricultural products. In addition, appropriate development of alfalfa in southern Shanxi and popularizing alfalfa, sweet clover, false indigo and sedge and such green manure crops by communes and brigades in a big way in western Shanxi and northwestern Shanxi, where there is more land, and fewer people and where soil erosion is serious, can helpt to reduce the loss of water, develop animal husbandry, improve soil fertility and solve the problem of fuel.

2. We should follow the road of combining fine traditional tilling and cropping technique and modern tilling and cropping technique. Traditional cropping in dryland crop agriculture is characterized by the maximum utilization of natural rainfall. The method of "three tilling, six raking, nine hoeing and drilling" is the typical experience of fine tilling and cropping in dryland. We should organically combine the traditional cropping and modern cropping techniques to create new ways to increase output of our nation's dryland crop agriculture. The key is to uniformly regulate the whole year's rainfall. Annual rainfall in the dryland crop regions in Shanxi is generally between 400 and 600 millimeters, and 70 percent of the rainfall is concentrated in the three months of July, August and September. In spring when water is needed, there is a lack of water. In summer, there is frequently too much rain water. This forms the special situation of spring drought and summer waterlogging. To uniformly adjust the whole year's rainfall, the only effective method is to store all the rain water. The methods of storing rain water are as follows: One way is to build reservoirs to store surplus rain water during the year and then use it when needed. Although this method is good, we cannot fundamentally solve the problem because of the limitations of topography and funds. The other method is to utilize traditional cropping techniques to establish a "cropping layer reservoir." The so-called cropping layer reservoir involves deep ploughing and shallow ploughing in summer and autumn, preserving and preserving moisture in spring and autumn loosen the soil structure of the cropping layer and creating advantageous conditions for storing rain water. During winter and spring when there is less rain, the fields should be raked many times to reduce evaporation of water. During the period from the planting of wheat in autumn to sowing in spring, the fields should be heavily packed in order to bring out the moisture from the deep layers to the sowing layer so to ensure that the seeds will germinate and the root will grow. This is what is commonly called "using summer water in autumn" and "using autumn water in spring." The wheat fields of Dongguanzhuang Brigade in Wensi County were first deeply tilled in summer. After 7 August; the fields should be harrowed aso as to absorb as much summer rain water as possible. The new cropping method of "four early three more" should be used. That is, clean stubbles early, deep ploughing early, fine plowing early, and harrow the soil early, more light plowing, more fine plowing, and more light harrowing of

the fields so that every drop of rain water is kept in the fields, the soil is loose inside and not cracked outside, the surface soil does not have cracks, evaporation is prevented, and the top part is loose and the bottom part is solid without clods. In 1975, that brigade contrasted the new and old tilling methods. The amount of water stored in the soil layer between 0 and 200 millimeters after using the new tilling method and before sowing wheat was 408.8 millimeters, more than that using the old tilling method by 61.6 millimeters. Jinzhuang Brigade in Huguan County used autumn tilling combined with the application of fertilizers and the tilling technique of harrowing the field more times in early spring. The water content in the tilled layer in spring was 3 percent more than the water content in the soil fertilized and tilled in spring. In most years, this could guarantee timely sowing and the preservation of full seedlings.

On the basis of traditional fine tilling and cropping, we must also actively introduce and test the advanced techniques of other nations, such as the use of weeders, the tilling less method, and the method of planting without tilling. These have produced good results after testing in certain regions. Very good results were realized by using ground coverings in planting cotton. Agricultural production using factory-produced large plastic tents will create new conditions for intensive agricultural production.

3. We should follow the road that combines engineering management and biological management. Of the total area of Shanxi, 80.3 percent consists of mountainous and hilly regions. Most of the nearly 60,000,000 mu of cultivated land is hilly mountain land. To guarantee the yield of slopeland in mountain regions, our ancestor created horizontal terrace fields on slopeland and built embankments in trenches and valleys to create land. Such techniques have been proven by history to be successful. The building of terrace fields and land encircled by embankments in trenches to create three-dimensional basic farmland is the fundamental way to develop dryland crop agriculture in mountain regions. It can also be considered a major invention by our ancestors in agricultural production.

To fundamentally solve soil erosion in mountain regions and change the ecological environment, it is not enough to rely on building embankments, preparing land, building terraced fields. We must carry out biological control based on engineering control, return slopeland over 15 degrees in inclination for forestation and grazing, and change the present vicious cycle into a beneficial cycle. Shanxi Province has found effective ways in water and soil conservation over the past 30 years. The main experience is the insistance on comprehensive dredging of small river basins and taking small river basins as the unit in water and soil conservation. The present area is amall. We must not expand outside the commune area. Such work should be carried out by brigades from top to bottom so that biological and engineering measures can be combined. We should plant forests and grass on precipitous slopes and mountain tops, and build terrace fields at the foot of mountains and on gentle slopes below the forests and grassland. Work should be done by contract. The state can provide appripriate investment. We should insist on centralized and continuous management. Then, we will produce definite results. This is an effective method of water and soil conservation at present that requires little investment and that will produce quick benefits.

9296
CSO: 4007/591

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TITLE: "Preliminary Results of General Soil Survey of Suburbs of Shanghai"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 1-3

ABSTRACT: Based upon The Document No 111 (1979) of the State Council, the second general soil suvey of Shanghai began to be carried out in the autumn of 1979 with Chengdong Commune of Qingpu County as the test point. The Institute of Soil and Fertilizer of the Municipal Academy of Agricultural Sciences, the Soil and Fertilizer Station of the municipal Bureau of Agriculture, Shanghai Academy of Agriculture, municipal Bureau of Water Conservancy, etc. participated in the work, which lasted nearly 80 days. This paper is a brief report of the comprehensive results of the survey of the test point. Chengdong Commune used to be lake-bed low-lying lands. After silting, developing, and cultivating, the soil has matured from the marsh soil origin into low paddy soil of poor drainage. Due to the constant anaerobic reduction state, the residues of aquatic plants are only partially decomposed and utilized by microbes to cause gigantic accumulation of humus. The organic matter content is at 4-5 percent and whole nitrogen above 0.2 percent. Below the topsoil, there is a layer of muck soil or peat. Further below, there is a layer of gley, affected by

[continuation of SHANGHAI NONGYE KEJI No 5, 1982 pp 1-3]

prolonged soaking in the ground water. Although it has long been believed that the soil parent material is entirely limnetic facies, this survey revealed some cross sedimentation of fluvial, limnetic, and marine parent materials. The survey revealed that 3.2 percent of the area of the commune have a ground water table less than 50 cm, 0.8 percent at 50-80 cm, 31.8 percent at 80-100 cm, and 14 percent at 100-120 cm. Since the liberation, efforts have been given to constructing water conservancy structures and the commune is basically protected from flood damages, but there remain various degrees of water-logging damages. At present, about 34 percent of the soils of the commune are severely water-logged and draining is urgently needed to lower the ground water table of these soils. These and other findings of the survey are reported.

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TITLE: "Paddy Soil Clay Minerals in the Region of Shanghai"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 4-6

ABSTRACT: For the purpose of understanding the mineral composition, distribution, and physical-chemical properties of the clay granules of soil in order to study soil formation, and identify the soil type and fertility, x-ray diffraction, electromicroscopic photography, and chemical analysis techniques were adopted to observe samples taken from 6 typical profiles of suburbs of Shanghai. Results indicate that in the paddy soil clay minerals, the SiO_2 content is high, at about 44.46-48.32 percent. The Al_2O_3 content is between 22.15 and 24.02 percent. On the profile and in the lower layer, the range of variation is insignificant. The Fe_2O_3 content varies at 8.9-10.74 percent. The positive ion exchange is between 33.30 and 42.20me/100g. The silicon-aluminum rate is 3.2-3.5; the silicon -iron-aluminum rate is 2.51 - 2.84; the whole potassium (K_2O) is 2.82-3.17 percent. The relationship between the clay mineral composition and soil nutrients is discussed. The x-ray diffraction spectrograms of the soil clay minerals of the samples taken from the 6 profiles are reproduced in the paper.

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TITLE: "Preliminary Report of Experimental Cultivation of Early-ripening Wheat 7630"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 16-17

ABSTRACT: The 7630 is an early-ripening wheat, bred out by Zhenjiang Prefecture Institute of Agricultural Sciences, Jiangsu Province. It was introduced to Shanghai County Institute of Agricultural Sciences for trial cultivation in 1979 and a yield of 724.8 jin/mu was obtained. It was rated No 4 of the 10 breeds participating in the experiment. In 1980, from 1.77 mu of intercropped spring soybean and small-row seeded wheat (35 percent wheat) 546 jin of wheat was harvested. The results of all test points show yield increases of 3-18 percent above Yangmai No 3. The growth and development characteristics, the utilization values, and the essential points of cultivation technique of the 7630 are discussed.

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TITLE: "Classification and Utilization of Climatic Resource of Shanghai Favorable for Triple-crop Grain System"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 27-29

ABSTRACT: When 3 crops of grains are cultivated in a year in the suburbs of Shanghai, the yield is often not stable due to the variation of the weather condition from year to year. The major problem is the low temperature damage to late rice in the autumn. This paper studies the heat energy resources of the region of Shanghai and divides the region in accordance with the distribution of >10°C cumulative temperature during the growth and development period of the late rica crop. On the basis of the classification, the paper concludes that the heat energy condition of Chongming Island is too poor for a triple-crop system. The southern parts of the 2 counties of Jinshan and Fengxian may become the chief area of a triple-crop system. The heat condition of the area of Jiading, Qingpu, and Songjiang can only allow a mixed system of dual and triple crops while Chuansha, Nanwei, and the eastern part of Shanghai County may cultivate 3 crops a year with a grain and cotton rotation system to adjust the seasons.

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TITLE: "A Study on Improving the Lean Meat Rate of Pigs"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 31, 30

ABSTRACT: With the development of the national economy and the improvement of the standard of living of the people, the consumers have begun to prefer lean meat and stock of unsold fat pork has begun to accumulate. In Hong Kong, lean pork is selling at about 13.22 HK yuan/jin while fat pork is only about 0.66 HK yuan/jin. Even at the price difference of 20-fold, fat pork still does not sell. In 1980-81, an experiment was carried out jointly by Shanghai Food Export Company, Huacao Breeding Farm of Shanghai County, et al to produce lean porkers through hybridization of 183 pigs. Comparing 5 groupings, hybrids of Shanghai White Pig x Duleke Pig appear to be the best, producing 30.60 percent lean meat in the legs and 60.71 percent lean meat in the body (average of 39 hybrids.) The best mixture of feed and the best feeding method to produce a high lean meat rate are also studied and reported.

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TITLE: "Preliminary Report of Experiment With Cultivating Wheat in Rice Paddy Without Plowing"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 pp 37-38

ABSTRACT: Jiading County has a high crop-repeating index and intense conflict of seasons, especially in years of frequent rains when plowing and planting of wheat must all be performed in soggy fields. If the weather is dry, the soil may easily become too tight for the growth of wheat seedlings. This is the main reason for low wheat yield in the county. In 1981-82, the authors experimented with cultivating wheat in rice paddies without plowing. More than 10 experimental points were established in several communes, totaling 15 mu. Three methods were tried: (1) Seeding wheat between rows of rice 10-15 days before the rice harvest; (2) Broadcasting wheat seeds after the rice harvest; (3) Seeding in rows of 2 cun with 5-7 cun in between the wheat rows. Plowed paddies are used for control. Results indicate that on the average (90 percent of the test points) without plowing, the yield of wheat is 4-14 percent higher. The yield is 2.7 percent lower than the control in one test point only. In 1982, the experiment was enlarged to 3,000 mu. The average yield of 50 mu in Zhuxiao Brigade No 9 averaged 775 jin/mu, 114 jin/mu higher than that of the control.

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TITLE: "Selection Breeding of the Early Ripening 7750 System of Rape"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 5 Oct 82 p 38

ABSTRACT: Experimental hybridization of the kohl-rabi type rape and the white cabbage type Nanhui native rape began in 1975 to select and breed out a new system of early ripening rape 7750. After 2 summers of propagation, beginning in 1978, its yield began to be compared with Shengli and 7055 for 3 years. The yield of 7750 is thus determined to be 339.1 jin/mu, 34.7 percent higher than Shengli and 22.4 percent higher than 7055. The 7750 has become the farm breed in Nanhui County since 1979. In regular production, its yield has generally been about 300 jin/mu; may be as high as 350 jin/mu in some high yield fields. Its cultivation technique is introduced.

6248
CSO: 4011/24

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TITLE: "The Hanchuan 4-B-141 Model Cotton Uprooter"

SOURCE: Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 9, Sep 82 pp 12-13

ABSTRACT: For the purpose of lightening labor intensity and improving productivity, the Hanchuan County Institute of Agricultural Machinery began in 1979 to try to make a cotton uprooting machine. Several prototypes have been made, and on the basis of these, the small Hanchuan 4B-141 was produced as the finalized model. It is to be used with a 3 hp walking tractor. Test operations have proved that it can pull up cotton stubble successfully and stack these stumps into a pile at a work efficiency of 2.5-3.1 mu/hr, 7-9 times higher than manual pulling. It was tried last year by Yongfeng Brigade and won the approval of the masses. The cost of uprooting the cotton stubble using this machine is 0.23 yuan/mu, 0.40 yuan less than using manual labor. The structural and work theory and the major technical parameters of this uprooter are given in the paper and illustrated with several drawings.

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TITLE: "The ST-70 Model Thresher"

SOURCE: Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 9, Sep 82 pp 16

ABSTRACT: For the purpose of resolving the problems of existing middle-sized threshers, in cooperation with Muping County Agricultural Machinery Plant, Wuzhong County Agricultural Machinery Plan, Taiyuan City Threshing Machine Plant, Taigu County Agricultural Machinery Plant, and related provincial centers of agricultural machinery, the China Academy of Agricultural Machinery has made the 5T-70 model thresher, with a compact structure, high productivity, and a long useful life. It may be easily moved about and adjusted. This machine basically resolves the problem of air backup of the material feeding opening; the operating condition of the thresher is thus much improved. This new machine has been certified at the ministry level. The new model comes in both the single and the double roller types. Structures of both are briefly described and illustrated with drawings.

6248
CSO: 4011/29

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TITLE: "The Exploitation of Tropical Rainforests in Relation to Soil and Water Conservation in Southern Yunnan"

SOURCE: Beijing LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 3, Aug 82 pp 245-257

TEXT OF ENGLISH ABSTRACT: In order to study the laws of soil and water loss of the tropical rainforest and the exploitation and utilization of its land, we carried out a field-plot experiment of water loss and soil erosion in southern Yunnan during the six years from 1962 to 1967. The results of the study are summarized as follows:
1. The seasonal variation of soil and water loss in southern Yunnan is very obvious. It may be divided into three different periods based on soil and water loss over the six-year period.
(1) The period of slight soil and water loss in the hot and dry season (February to May).
(2) The period of severe soil and water loss in the rainy season (June to August).

[Continuation of LINYE KEXUE No 3, Aug 82 pp 245-257]

(3) The period of slight soil and water loss in the cold and cool season (September to January of the next year).
2. The general law is that the runoff, the soil erosion and the runoff coefficient increase with every increase of rain capacity and rainfall intensity in this region.
3. In different utilizations, the soil and water loss of the rubber-tea community is 22.3 percent and 29.7 percent lower than that of a pure rubber plantation, and 95.7 percent and 93.9 percent lower than that of farm crops. Therefore, transforming farmland into rubber-tea community or economic forest land of two stories is a better way of utilizing tropical mountainous areas rationally and decreasing the loss of soil and water.
4. The results of the study still show that the loss of soil and water on the farmland of shifting cultivation is the most serious. It is 778.3 times and 34.5 times that of the tropical rainforest, and 6.6 times and 5.7 times that of the bench terrace, respectively. In order to restore the function of the tropical rainforest ecosystem and prevent the loss of soil and water on farmland in this region, we must safeguard the tropical rainforest against deforestation. We must change the slope land to contoured terrace, and reform step by step the cropping system of shifting cultivation into that of rational rotation of crops. These are efficient measures for raising soil fertility, keeping water and soil, fixing farmland and obtaining high yield of crops.

9717
CSO: 4011/17

Grain Cultivation

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TITLE: "Research on Large Area High and Stable Yield Cultivation Technique for Grains and Beans in the Central Parts of Liaoning Province"

SOURCE: Dalian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 5, 15 Oct 82 pp 7-10

ABSTRACT: Central Liaoning is one of the major bases of commercial grains in the Northeast. In the past decade, due to overemphasis of grain production, the corn acreage has been consistently enlarged at the expense of gaoliang and soybean and the improper coordination of organic and inorganic fertilizers has resulted in reduction of soil fertility and worsening of agro-ecology. According to tests taken in 1979, the soil organic matter content has dropped from the 1.39 percent of 1975 to 1.25 percent, a rate of reduction of 0.035 percent per year. Incidences of head smut have been 10-30 percent in the last several years. For these reasons, a research project was carried out by the institute in 3 production brigades of Haicheng County to experiment with the following items: (1) To change horizonal seeding to mound seeding to improve drought, flood, lodging, and wind resistance of corn; (2) To change breeds of corn and soybean for better yielding and other manifestations; (3) To increase manure, farm fertilizer, and phosphate applications; (4) Reasonable density to improve utilization of photo-energy and land; (5) Green manure cropping to nurture soil fertility. Yield increase results in the 3 brigades in 1980 and 81 are reported.

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TITLE: "On Improving the Fertilizer Application System for Rice---Replacing the 'Top Heavy' Application Method With late Stage Follow-up Method"

SOURCE: Dalian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 5, 15 Oct 82 pp 14-18

ABSTRACT: The top heavy method of fertilizer application had been in use in the rice paddies of Liaoning until the early 70's. Under the condition of small amount of nitrogen application, this was a method of applying mainly tillering fertilizer to guarantee the yield increase effect. In recent years, the quantity of nitrogen fertilizer has reached a high level and with the top heavy method, serious lodging has occurred. In years of low temperature, the growth and development period became too long as well. Studies carried out by the Institute of Rice Crops and the Institute of Soil and Fertilizer demonstrated that the old method had to be changed. After 2-3 years of testing, a new method of applying nitrogen fertilizer as follow-ups in different stages was adopted to replace the old and yield increase results of 7-10 percent have been obtained. The new method is offered in the paper for the reference of rice growing regions of the Northeast, the Southern Plains, as well as the cold rice growing regions of the North.

6248
CSO: 4011/28

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TITLE: "An Analysis of Trend of Annual Precipitation Distribution in Yunnan Province"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 8, 10 Aug 82
pp 12-14

ABSTRACT: Many studies have been carried out on the relationship between the annual total rainfall R (one of the most important climatic parameters) and various geographical factors, but it remains difficult to provide a precise and objective simulation of the spatial structure of R. The difficulty is due to the fact that R is a very complex function, determined not only by the geographical location $V(\lambda, \varphi)$ of the observation point but also by the extremely variable factors of the terrain. Of these, the elevation H is easily directly expressed by related parameters and its relationship is often reported by various areas in recent years. Others, such as the direction and the grade of the slope, its openness etc. do not yet have suitable indices. For a comprehensive reflection of their quantitative action on rainfall, the function C is abstractly used in the paper to represent the terrain. For the purpose of finding some geographical reasons for the annual rainfall distribution in the 330,000 km^2 of area of Yunnan Province, this paper proceeds with some rough mathematical analysis of the spatial structure of distribution of the annual rainfall in the province. The data of the 130+ weather stations in the province are used in the analysis.

6248
CSO: 4011/16

Plant Protection

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TITLE: "Preliminary Studies on Physiological Forms of Cotton Verticillium Wilt Fungus"

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 145-148]

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 145-148

TEXT OF ENGLISH ABSTRACT: Different hosts, including nine cultivars belonging to three species of *Gossypium* (*G. himsutum*, *G. barbadens*, *G. arboreum*) were used for identifying the physiological form of *Verticillium dahliae* Kleb. Ten isolates of cotton Verticillium wilt fungus collected from eight provinces were identified and classified into three forms. Form I was highly pathogenic to three species of *Gossypium*, mainly including the "Jin Yang" strains of Shanxi Province. Form II was less pathogenic to all tested hosts. This form included mainly the "He Tian" and "Che Pai Zi" strains of the Xinjiang Uyghur Autonomous Region. The pathogenicity of Form III was between that of Form I and Form II. This form mainly included the strains of eight other counties of six provinces.

AUTHOR: ZHANG Lianshun [1728 5114 7311]
et al.

ORG: ZHANG of the Plant Protection Research Institute, Fujian Academy of Agricultural Sciences

TITLE: "Studies on Resistance of Sweet Potato Varieties to Bacterial Wilt"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 149-152

TEXT OF ENGLISH ABSTRACT: From 1977 to 1981 more than 500 sweet potato varieties from domestic sources and abroad were tested in some severely epidemical regions of bacterial wilt in Fujian for determining their resistance. The results showed that none of them was immune, but there was considerable variation among their disease incidence. Of these varieties, 17 were highly resistant (disease incidence 0.1 ~ 10 percent and its index 1 ~ 5), and 88 varieties were moderately resistant (disease incidence less than 11 ~ 39 percent and its index 6 ~ 20).

According to the recorded data in recent years from many epidemical regions, it was also proved that the depression of resistance of these varieties occurred after continuous planting for 2 ~ 3 years, and it was variable among different varieties. Therefore, in order to prevent the bacterial wilt of the sweet potato, it is necessary to adopt some measures, such as changing the variety annually,

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 149-152]

continuous selecting of highly resistant varieties, planting new resistant varieties, etc.

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TITLE: "Studies on Stunt Mosaic Disease of Spinach"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 153-156

TEXT OF ENGLISH ABSTRACT: A spinach stunt mosaic virus was isolated in the spring of 1981 in a spinach field on the outskirts of Beijing. The spinach infected with this virus appeared dark green with yellow mosaic. The leaves were crinkled and malformed, and the plants were severely stunted.

The host range has been tested by sap inoculation. The virus can infect 19 species of plants, including the families Leguminosae, Solanacea, Chenopodiacea, etc. It is transmissible by the aphid (*Myzus perciae*) in a non-persistent manner. The thermal inactivation point is 70°C, dilution end point is 10^{-4}~10^{-5} and longevity in vitro is three days.

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 153-156]

The virus was purified from *Chenopodium quinoa* or *Gomphrena globosa* by means of chloroform clarification, 10 percent PEG-6000 precipitation and two cycles of differential centrifugation. Electron microscopy revealed that the isometric virus particles were 24-25 nm in diameter. The examination of the sedimentation pattern of this virus has given three S values--57S, 94S and 113S. The antiserum titer prepared for this virus is 1:512.

From the data obtained here a tentative conclusion has been made--that the agent of spinach stunt mosaic disease is a strain of broad bean wilt virus.

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TITLE: "Isolation and Identification of Viruses Infecting Saccharine Melon in Xinjiang"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 157-162

TEXT OF ENGLISH ABSTRACT: We investigated and collected 19 samples of Saccharine Melon (*Cucumis melo* var. *saccharinuo melo*) and other Cucubits during 1980-1981 in Shihezi, Tulufan and Changji, Xinjiang.

The samples were identified on the basis of host range, serology and electron microscopy. Two entities of virus were detected from these samples.

The host range of the first group is wide. Infected are *Cucurbitaceae*, *Leguminosae*, *Solanaceae*, *Chenopodiaceae*, *Compositae* and others. A clear precipitate line occurs with antisera against CMV in an immunodiffusion test. The

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 157-162]

spheroidal virus particles have been observed by electron microscopy. The group has been determined to be a strain of CMV.

The second group infects *Cucurbitaceae*, *Leguminosae* and *Chenopodiaceae*. A clear precipitate line occurs with antisera against WMV-2. The filametous virus particles have been observed by electron microscopy. The group has been determined to be WMV-2. WMV-2 is most prevalent on Saccharine Melon in Xinjiang.

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TITLE: "A Preliminary Study of the Field Sampling Technique of the Population of the Oriental Armyworm *Mythimna separata* (Walker)"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 173-178

TEXT OF ENGLISH ABSTRACT: Based on the study of the distribution pattern of the oriental armyworm population, the sampling technique, theoretical sampling numbers and sequential sampling were studied.

1. Comparing the degree of accuracy of several simple random samplings, we consider the chessboard sampling method to be the best one in the investigation of the egg stage, while the parallel-line sampling method can be applied in the investigation of the larval and pupal stages.

2. By calculation, the theoretical sampling numbers of the different developmental stages of the oriental armyworm were defined, and the relation between the theoretical sampling number and relative variance was analyzed.

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 173-178]

3. Using the sequential sampling method, the chemical control standard of the oriental armyworm population in the larval stage in the field was tested. To analyze the larval quantities by means of sequential sampling, the following equations were used:

$$\begin{cases} d_0 = 3.84n - 40.738 \\ d_1 = 3.84n + 40.738 \end{cases}$$

A practical table of determination for field use was made. A calculative character curve and average sampling number curve were given.

AUTHOR: None

ORG: Scientific Research Coordinated Group for Planthoppers of Sichuan, Yunnan and Guizhou Provinces

TITLE: "Migration and Occurrence of White-backed Planthoppers and Brown Planthoppers in Southwest China"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 179-186

TEXT OF ENGLISH ABSTRACT: In southwest China, migration and occurrence of white-backed planthoppers (*Sogatella furcifera* Horvath) and brown planthoppers (*Nilaparvata lugene* Stal) have different features from those in the eastern part of China as a result of the combined effect of different geographic location, topography, climate, cultural system, etc.

The planthoppers immigrated abundantly into the southeastern part of Guizhou Province at an earlier season, with the white-backed planthoppers being the predominant species. In Yunnan Province, immigration appeared first in the southern part and then in the north, and the predominant species was the brown planthopper, followed by the white-backed planthoppers. In Sichuan Province, immigration appeared first in the eastern part and then in the west. The immigratory paths of that generation causing major damage were varied, and the

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 179-186]

migrations of short and middle distances occurred frequently in the summer. Therefore, there were two major damage periods on middle rice during some years.

As for characteristics of occurrence, in normal years planthoppers usually do more serious damage in the eastern and southern parts of the above three provinces than in the western and northern parts. The nearest planthopper populations were the principle sources of emigration doing harm to middle and late rice. It has been found that the planthopper could be checked by various kinds of natural enemies.

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TITLE: "Influence of Various Food Plants on the Growth and Fecundity of *Agrotis segetum*"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 187-192

TEXT OF ENGLISH ABSTRACT: Various food plants were tested with the larvae and moths of *Agrotis segetum* (Schiff.) to see their influence on the number of eggs laid. The results show that when larvae fed on leaves of Chinese cabbage, cotton, and corn, along with some wild herbs, the moths emerging laid more eggs and lived longer than did those emerging from the larvae fed on other plants. The larval stage of those fed on *Chenopodium* spp. was much shorter than that of those fed on *Abutilon* spp., and the percentage of mortality was also lower. Moreover, body weights of the pupae whose larvae fed on Chinese cabbage or *Chenopodium* were heavier than those from larvae which fed on potato.

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 187-192]

Results showed that the moths laid more eggs (1.99 ~ 14.06 times) when feeding on honey and sugar or nectar of *Aster* or *Helianthus* flowers than did those living on Chinese cabbage or alfalfa flowers or water alone.

It seems that supplementary diet taken at the adult stage has a more important effect on fecundity than the quality of foodstuff taken at the larval stage.

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TITLE: "Bioassay of the Nuclear Polyhedrosis Virus of the Cotton Bollworm, *Heliothis armigera*"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 193-197

TEXT OF ENGLISH ABSTRACT: Bioassay of the isolated S01-43 nuclear polyhedrosis virus (SEV) was conducted on early third-instar larvae of *H. armigera* which were individually reared on an artificial diet contaminated with the virus. The regression equation between dosage and mortality was $y = 3.3387 + 0.484x$. The LD_{50} value and 95 percent fiducial limits were 2707 PIB and 1134 ~ 6455 PIB/g of diet, respectively. The LT_{50} values for 5×10^4 and 5×10^5 PIB/g of diet were 7.36 and 6.27 days, respectively. S01-43 NPV stored for 3 years in a refrigerator (4°C) lost 79.03 percent of its LD_{50} activity, but that stored for 3 years at room temperature (approximately 22°C on the average) lost 91.21 percent of its LD_{50} activity.

AUTHOR: LIU Yongfu [0491 3057 4395]
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TITLE: "The Geographical Distribution and Control of Millet Borer, *Chilo infuscatella* (Snellen), in Luliang Mountainous Region"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 198-203

TEXT OF ENGLISH ABSTRACT: The altitude of the Luliang mountainous region ranges from 700 to more than 1400 m. It was found that damage done to the millet by the millet borer, *Chilo infuscatella*, changed with the altitude, being severest in the range from 1100 to 1300 m. Above 1500 m, no incidence was observed.

There was only one generation of the borer annually. Winter was passed almost exclusively in the millet stubble as mature larvae in cocoons. If June was dry, the overwintering larvae could not readily pupate and incidence was less severe. When the precipitation reached 20 mm by mid-June (which was quite unusual), the larvae could pupate promptly and injury to millet would be severe that very year.

Based on the estimated loss and economic threshold, it would not be difficult to decide if a millet field needed chemical control.

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TITLE: "A Preliminary Study on the Resistance to Insecticides of Brown Planthopper (*Nilaparvata lugens* Stal)"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 205-210

TEXT OF ENGLISH ABSTRACT: A survey on the susceptibility of the brown planthopper collected from different areas of Zhejiang Province to γBHC, malathion and parathion was tested by topical application in 1977. The data obtained showed that resistance of the brown planthopper to γBHC and malathion appearing in paddy rice fields between June and early July in the areas of this province was 2.4 ~ 6.8 and 3 times respectively in comparison with that of Wucun Juxian County. The autumnal generation was 4.7-fold resistant to γBHC as compared with LD_{50} of the immigrant summer generation. The resistant laboratory strain originating from the autumnal generation in Dongyang County was 11.5 times resistant to γBHC as

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 205-210]

compared with the susceptible strain from the immigrant summer generation in Wucun Juxian County. It was found that the susceptibility of the above-mentioned strain (γBHC-resistant strain) to organophosphates, such as malathion, parathion and sumithion, was the same as that of the susceptible strain.

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TITLE: "Studies of a New Insecticide--Thiocyclam Hydrogen Oxalate--for the Control of Rice Insects"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 3, Sep 82 pp 211-216

TEXT OF ENGLISH ABSTRACT: Based on the results of three years of laboratory and field experiments, it was found that thiocyclam hydrogen oxalate is very effective against the rice striped borer (*Chilo suppressalis*), the yellow stem borer (*Tryporyza incertulas*), the rice leaf folder (*Chaphalocrocis medinalis*) and the

[Continuation of ZHIWU BAOHU XUEBAO No 3, Sep 82 pp 211-216]

rice thrip (*Baliothrips biformis*). The characteristics, effectiveness and mode of action of thiocyclam hydrogen oxalate are discussed. Results of root-zone application showed that thiocyclam hydrogen oxalate is also a good systemic insecticide when used at a rate of 1.5 kg ai/ha. It is very effective in controlling rice borers and thrips by root-zone application.

In view of the fact that thiocyclam hydrogen oxalate belongs to a novel class of insecticides, including cartap and "diemhypo," which presumably acts by the interruption of the nerve impulse transmission at the synapses by blocking the acetylcholine receptors, it is a promising compound for the control of rice insects resistant to organochlorine, organophosphorus and caroamate insecticides.

9717
CSO: 5400/4108

Veterinary Experiments

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TITLE: "The Feeding Effect of Barley Bud Meal on Pig Growth"

SOURCE: Tianjin ZHONGGUO XUMU ZAZHI [CHINESE JOURNAL OF ANIMAL SCIENCE] in Chinese No 5, 5 Oct 82 p 10

ABSTRACT: Barley of a high sprouting rate is selected for 8 hours of soaking (longer in the winter, shorter in the summer) before piling up under a layer of straw cover to allow the sprout to grow to about 1 cun in length. The barley grains that have failed to sprout are eliminated. The sprouts are dried in the sun and ground into a meal. Four experiments were carried out in 1979 to feed the sprout meal to pigs to study its effect on their growth and digestion. Results of the experiment indicate that when 3-5 percent sprout meal is added to the feed of sickly [not robust] pigs and pigs that have been weaned too early, the nutritional conversion rate is obviously improved, some feed may be saved, and the daily weight gain is higher. Adding the barley sprout meal to the feed of grown and healthy pigs, there is no effect, however. Detailed data of the experiment are reported.

6248
CSO: 4011/21

AUTHOR: SHA Zhenggui [3097 1767 6311]
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ORG: Both of Institute of Rice and Wheat, Fujian Provincial Academy of Agricultural Sciences

TITLE: "Major Characteristic Expressions and Pedigree Analysis of Several Wheat Varieties"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 1-5

ABSTRACT: Once the goal of breeding is decided upon, the key to success or failure is the choice of parents. In order to provide the experience regarding the choice of parents, the authors proceeded to study 5 wheat breeds, which were bred out in Fujian and have been extended over large areas, in terms of their major characteristics and their pedigrees, hoping to contribute to the understanding of the evolutionary history, the blood relationship, and the genetic principle or dynamics of major economic characteristics of each of these cultivars. The wheat breeds thus analyzed include Fumai No 7, Hongmangmai, Jinmai 2148, Pumai No 1, and Longqi 35. The genealogical table of each breed is provided and the genealogical origin of each of its major merits and demerits explained.

AUTHOR: None

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TITLE: "New Breeds of Wheat: Fufan-16 and Fufan-17"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 6-7

ABSTRACT: Fufan-16 and Fufan-17 were bred out by the Wheat Office using Jinmai-2148 and an Institute's own material B-5 (white) as parents. Offsprings of these 2 sister hybrids were cultivated, identified, and selected for 8 seasons in 5 years in Heilongjiang and several areas of Fujian and their F_6 were found to have stable characteristics and good yielding and adversity resistance in the summer of 1976. In the following winter, their F_7 were propagated in Fumei Brigade of Longhai County, Fujian for preliminary yield test and the yield was computed at above 400 jin/mu. They began to participate in joint regional cultivation experiments of Fujian and 3 South China Provinces in the winter of 1977. The morphological characteristics, yielding, suitable cultivation areas, and essential cultivation techniques are introduced. Their yield is comparable with that of Jinmai-2148 but they mature 3-8 days earlier.

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TITLE: "Low Temperature Cold Damage to Wheat in the Spring and Its Protective Measures"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 7-10

ABSTRACT: Majority of wheat cultivars used in the winter wheat regions of South China belong to the spring type, having relatively poor cold tolerance. These regions are frequently attacked by cold air from the north in late winter and early spring, however, and the wheat crop often suffers from various degrees of low temperature damage to become infertile. From 1980 to 1982, 126 spring type wheat cultivars (lines) of different origins were observed in each spring under natural low temperature condition at various seeding times. Major symptoms of spring low temperature damage and major factors influencing the extent of the damage thus observed are described. The paper suggests the following preventive measures: (1) Reasonable arrangement and selection of cold resistant (tolerant) breeds; (2) Reasonable adjustment of seeding time; (3) Improving fertilizer application and field management to reinforce cold resistance of the wheat; (4) If cold damage should occur, proper application of supplementary fertilizer and water may promote fast growth of undamaged tillers to salvage the crop; (5) Fumigation to protect wheat from frost.

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ORG: All of Wutang Commune Agricultural Technology Station, Putian County

TITLE: "Wheat High Yield Experience of Wutang of Putian"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 11 13

ABSTRACT: The spring wheat harvest of Wutang Commune's 6,038 mu in 1982 averaged 397 jin/mu. Compared with the previous year, the acreage was 338 mu larger and the yield increased 21.7 percent per mu to result a total production increase of 29.0 percent. Objectively speaking, first, there was the good weather, but due to rainfall deficiency in the early period, wheat seedlings did appear to stop growing. The weather was indeed favorable in the middle and late periods. In view of technical measures, the following experience is summarized: (1) Reasonable arrangement of winter crops including such spring harvested green manure crops of 3201 mu of broad beans and rape; (2) Selecting superior breeds of wheat; (3) Early seeding at a suitable time; (4) Reasonable density; (5) Scientific application of fertilizer; (6) Intensive field management; (7) Preventing lodging, diseases, and pests and having old people and children or straw-man drive birds from wheat fields. These measures are explained in some detail.

AUTHOR: RUSSELLE, M. P. et al

ORG: None

TITLE: "Effect of Soil Temperature on Sprouting in Winter Wheat and Winter Barley Fields"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 36-38, 13

ABSTRACT: This paper, originally appearing in AGRONOMY JOURNAL Vol 72 No 5, 1980 pp 823-827, is translated into Chinese by PO Shi [3789 4258].

AUTHOR: SHEN Qinlin [3088 2953 7207]

ORG: Soil and Fertilizer Station, Jianyang Prefecture Bureau of Agriculture

TITLE: "Technique of Testingthe Soil, Determining the Desired Yield, for Designing a Fertilizer Application Scheme"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 5, 10 Oct 82 pp 49-50

ABSTRACT: Research studies in Fujian and other provinces and experimental results in Shunchang, Pucheng, and Guangze counties of Jianyang Prefecture demonstrate that survey and chemical analysis data of soil may be used to design a fertilizer application scheme to produce a targeted yield increase. In 1981, soils were analyzed in Guangze County before a fertilizer plan was devised accordingly; compared with 1980 when the ordinary fertilizer application method was used, the yield was 81.5 jin/mu higher while the cost of fertilizer was 2.38 yuan/mu lower. A method is introduced to compute the basic fertility of soil on the basis of its chemical analysis data of alkaline decomposed nitrogen, fast acting phosphorus, and fast acting potassium. With a predetermined goal of yield of a given crop, the needs for N, P, and K are calculated and on the basis of the needs and the available supplies of the soil, a fertilizer application scheme is devised. Equations required for these mathematical calculations and the processes of computation are introduced.

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I. GENERAL INFORMATION

QUESTIONS ON FORECASTING, PREVENTION OF FLOODS EXPLORED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 3, 1982 p 20

[Article by Hua Shiqian [5478 1102 0051] of the Nanjing Hydrological Research Institute of the Ministry of Water Conservancy and Electric Power: "Problems That Should Be Noted in Actual Forecasts for the Prevention of Floods"]

[Text] (I) The Quantitative Problem in Hydrological Science

Half a century ago, hydrology was basically a branch science that had just emerged from earth science. It mainly described hydrological phenomena. As the need for calculating flood waters in designing large water conservancy projects and for forecasting floods to prevent flooding of important rivers arose, hydrology began to develop quantitatively. Today, quantitative calculations in hydrology can preliminarily satisfy the requirements in design and in flood prevention, but its precision is not high compared to other quantitative sciences. During the latter part of the 1960's, the use of computers in the field of hydrology became widespread. Many hydrological models were developed. The efficiency of computation was improved, but the improvement in precision was still limited. This was because of the following reasons:

1. The limitations of input of information of hydrological systems

Our nation suffered mainly from floods due to rain. The amount of rainfall is the main piece of information of a hydrological system. How large an area of rain can a rain meter really represent? This question is difficult to answer. Sampling tests taken from stations of the existing network of rain measuring stations show that the gradient of rainfall in the plains is small. Within an allowable range of error, it can represent a larger area. The gradient of rainfall in the mountain regions is larger and the area it can represent is smaller. The southeast coastal region is generally a complete region of rainfall. The area represented can be larger. Rainfall in the northwest is frequently distributed in patches. The area that can be represented is very small. I have had contact in the past with the Beiyishui Chongling Runoff Experimental Station at the eastern foot of Taihangshan in Hebei Province. Taking it as an example, seven rain guages were set up within the small river basin with an area of only 50,000 square meters. The difference between the maximum and the minimum amount of rainfall, measured after one rainfall, generally reached 5 percent and the difference between individual rainfalls reached 13 percent. Of course, the strike of the mountain slopes in this small river basin had a relatively large turn, and this might have enlarged the gap of the difference. But the density of the rain measuring stations in large river valleys is much lower, and we can conclude that the error and the difference contained in the measurements of rainfall themselves are not too small. The measuring of the torrential rains in the northwest may show an even greater error and difference. Such input errors are not easily adjusted by computational methods. When reflected in the output, the improvement in precision of hydrological forecasts is limited. The precision in measuring the flow in small rivers is also limited by conditions. Because the slopes are steep and the flood waters rise and fall quickly, and if the period of measuring the flow cannot be easily shortened, then the measurement made from one bank to the opposite bank would not be the sum of the individual parts of the flow of each sectional area measured at the same time. Moreover, the error and the difference also cannot be neglected even when measurement is taking place instantaneously as the entire section of water flow occurs. The precision in measuring the flow of large rivers is generally higher, but there are exceptions, for example, in the river segments at the middle and lower reaches of the Huanghe, because certain sections are too wide, and the measuring of flow requires several hours. With the unstable silting in certain sections of the flood, the direction of the main flow frequently shifts, thereby reducing the precision of the measuring of the flow. Therefore, even if the effects of human activity are not taken into consideration, the error and the difference in the information on natural river valleys further limit the improvement in calculating precisely the hydrological quantity.

2. The limitations of the methods of hydrological calculations

Over the past 20 years and more, the theory and methods of hydrological calculations have improved. Generally speaking, the study of the laws that govern the motion of bodies of water in a river valley is a problem in hydrodynamics. Calculations of the generation of flow and confluence are all limited by the Sheng Weinan [5110 4850 0589] differential equations. In the past, the Sheng Weinan equations were very difficult to solve. Now, with the help of the computer, they can be completely solved. But the parameters in the Sheng Weinan equations and the boundary and initial conditions vary according to time and place in the river valley. In practice, frequently data of many measurements must be gathered to select the best measurements to determine the parametric values. This limits further improvement of the precisions of calculations. During the past 20 years, new models for the generation of waterflow and confluence have been proposed continuously, but the precision of calculations has not been greatly improved. This is because the structure of the models is often simplified while the actual situation is much more complex. The major factors affecting the dynamic variation of bodies of water and variations in time and space, can only be generalized using statistical methods at present. Of course the precision is limited. When limiting values beyond the range of the known data are encountered, it is more difficult to guarantee the precision of calculations. In general, the established model used for forecasting at present includes the objectively existing randomness of the elements of input and the lower cushioning surface within the space of the river valley, and there is great difficulty in further improving their precision.

3. Estimates of the effects of human activity are rough

As productivity develops, the ability of mankind to influence nature and the environment becomes greater. The effects of water conservancy and water conservation projects upon the various elements of hydrological cycles are the most visible [examples] of this. They should be given full consideration and they should be quantitatively estimated as much as possible.

The current research level indicates that qualitative judgment can be made of the changes on the surfaces of slopes in river valleys, but it is very difficult to make quantitative estimates of higher precision. For example, changes in vegetation on the surfaces of slopes will cause corresponding changes in the granular structure of the soil and this will benefit infiltration of water. The increase in coarseness of the surface of a slope will reduce the speed of flow on the surface of the slope and increase the duration of infiltration from the surface of the slope. Changing the surface of the slope into platform terrace fields and building ridges around the fields will similarly delay runoff and increase infiltration. Because the amount of construction on the surface of the slope is large, the distribution on the surface is not even, therefore, it is not practical to calculate its influence on the macrocosmic river valley precisely. Generally, we can only rely on empirical data to develop a rough estimate. Construction projects on river channels, such as reservoirs, river floodgates, flood water sluice gates or diversion sluice gates have a relatively stable relationship in hydraulics. We can use more mature hydraulic and hydrological methods in calculations and the precision is higher. But in actual forecasting, we still need to acquire all information regarding the projects on the river channels described above in time before we can carry out relatively more precise calculations. If there are many construction projects in the river channels in the river valley, and if we can only obtain information concerning a portion of the projects, then we can only make estimates.

A summary of the three points above shows that further improving precision involves the three aspects of information input (the network of stations), computational method and human activity. Therefore it is very difficult. It is very important to clearly recognize this point. On the one hand, blindly believing the forecasts and believing that every water level that has been forecast will surely be reached without even one centimeter of error and thus neglecting the problem of precision in quantitative calculations, a problem that commonly exists in earth sciences can be avoided. On the other hand, complete distrust of hydrological forecasting and regarding it as a theoretical science and disregarding it completely can also be avoided. Only by correctly understanding the precision of quantitative hydrological forecasts can we correctly use the forecasts and avoid causing unnecessary loss.

(II) Becoming Familiar With the Weather, Flooding and Natural Geographic Characteristics of the River Valley Can Prevent Serious Mistakes in Actual Forecasts

The forecasting plan is the most important tool in forecasting. This view is generally accepted. But, can we acquire the initiative in preventing floods and guarantee that our forecasts will not be seriously wrong by relying only on the forecasting plan? The answer is not affirmative. In special situations, simply relying on the forecasting plan will not completely avoid serious mistakes. Also, if we disregard the problems that might exist when drawing up a forecasting plan, at least in the many forecasting plans that have already been established, we cannot completely reflect the effects of weather, flooding and natural geographic characteristics of the river valley. Therefore, if the forecaster does not possess a profound knowledge of the above characteristics of the river valley, and if he relies only on the forecasting plan to make his forecasts, it is very possible that he will not avoid making forecasting errors while seizing the initiative in his work and while encountering special conditions that have occurred. The following examples will explain this.

1. Understand the characteristics of torrential rains in the river valley and seize the initiative in flood prevention

First we must understand the seasons in which torrential rains occur in the river valley. For example, torrential rains generally occur between the beginning of July and the middle 10 days of August in ordinary years in the Huaihe river valley. But the earliest occurrence of floods due to torrential rain is at the beginning of June. At this time, wheat planted on the river beaches has not been harvested yet, and when torrential rain falls, a labor force must be organized before the flood water floods the beaches to harvest wheat in time. This creates a tense situation. Therefore, starting from the beginning of June, flood prevention forecasters must watch the movement and development of rainy regions south of the Changjiang closely to seize the initiative in flood prevention. Also, for example, after the middle 10 days of August, the possibility of occurrence of large floods in the entire river valley is very remote but the threat of typhoons to Shandong and the northern coast of Jiangsu still exists. Especially in Yishu River, only several hours after a torrential rain, flood peaks will occur in Linyi and Danguanzhuang. When the floodwater surpasses the safe amount of downstread discharge, the sluice gate at Jiangfenkou must be used, the waterflow of the Yi River must be diverted into the Shu River, and the sluice gate on the Xinshu River must be used. To seize the initiative in flood prevention, the movements of a typhoon over the Pacific, the possible landing routes and the possibility that the typhoon will change to a tropical low pressure system and move into the Yi-Shu river valley must be closely monitored during this period to strengthen flood forecasts and preparatory forecasts. This way we will avoid being caught unprepared when torrential rains fall because we have let down our guard during the latter period of flooding.

2. Understanding the characteristics of flooding in river valleys is useful in revising forecasts and improving accuracy

By analyzing the water of large and small floods pouring into a river valley, we can understand the characteristics of the fullness or leanness of the peaks, variations in the time of propagation of the floodwaters, regulation and interference of floodwater in the main streams and tributaries, the characteristics of deformation, the rise and fall of water roping during the course of downstream discharge of floodwaters in river channels, the regulatory and storage functions of natural lakes and lowlands, and the characteristics of the tidal effects at river mouths. They all have a great reference value for revising actual forecasts, and sometimes may play a key role. Take the southern Canal before 1963 as an example. The safe discharge of the river channel from Chenggouwan to Dezhou dropped from 1,100 cubic meters per second to 400 cubic meters per second. The capability of the river segment for passage of floodwater becomes smaller downstread, creating blockage. This is more pronounced when floodwater continues to flow. The relationship between the water level and the volume of flow at each of the corresponding stations along the river has been shown to be opposite the looping effect in ordinary river channels, and looping of follow-up floodwaters is even greater. The relationship between trough storage and the volume of flow also shows corresponding looping changes, but forecasting plans consider only changes in the rise and fall of water to derive the parameters of the floodwater. This is the average value of the slope of the looping floodwater over the years. The precision is not high.

But how can we estimate looping changes for the next flood? That depends on a profound understanding of the characteristics of the flood water in the river segment and the experience acquired in past forecasts to correctly estimate looping changes. The precision of forecasting can visibly improve. It can be seen that a profound understanding of the characteristics of floodwater in the river segment or the river valley is a precious treasure of a mature forecaster. It is also a necessary preparation to avoid major forecasting mistakes.

3. Understanding the natural geographic characteristics of the river valley is also an important apsect of a successful forecaster

The elements taken into consideration by a forecasting plan are mostly elements that are directly related to the movement of the bodies of water. The plan only describes in general the natural geographic characteristics of the river valley, such as vegetation, soil, the shape of the river valley and the fall of the slope, the density of the river network, the section of the river channel and the specific fall, the lakes and beaches of river troughs, ground surface erosion (including slipping slopes during the rainy season). Generally they are not the major parameters used in quantitative calculations in the plan.

Under ordinary conditions, the effects of natural geographic factors are relatively stable in the river valley, but under special conditions, the effect of a certain factor may be very large. At this time, simply relying on the forecasting plan may cause mistakes in forecasting. For example, there is a relatively wide natural flood detention basin at the mouth of the Zhanghe where it emerges from the mountain. Each year after the flooding period begins, water of the first big flood pours into the flood detention basin, and nearly 10 million cubic meters of water are lost. If this situation is not understood and if it is not handled in a special way, the forecast of the first floodwaters may very possibly be over estimated and cause a scare. Also, for example, if several rains had already fallen during the early period of the year in the loess plateau region at the middle reaches of the Huanghe and if such rains were followed not long afterwards by torrential rains, then large slides might easily occur. This would greatly increase the sand content of the flood waters. The peak of such mud flows is a combination of the peak of clear flood waters and the peak of mud flow. If the forecasting plan is drawn up from the data of flood waters having a low sand content, generally speaking, the forecast value will be smaller. The above shows that in actual forecasting, it is necessary to be familiar with the natural geographic characteristics in the river valley.

A summary of the three above points shows that to guarantee the precision of actual forecasting for flood prevention, besides drawing up a good forecasting plan, we still need to be familiar with the weather, flooding and natural geographic characteristics of the river valley before we can seize the initiative and prevent mistakes.

(III) The Effects of Water Conservancy and Water Conservation Projects Upon the Flood Water in the River Valley Must Be Fully Understood

1. In forecasting for river segments, we must first understand the ability of the embankments of each river segment to discharge the flood water and the dangers of unsafe sections of embankments at different water levels. The amount of flow over the flat beaches must be understood. To guard against large flood waters, we must understand the amount of flow over level embankments, and we must understand the situation of water blocked by bridges where there are bridges. In river segments where sectional scouring and silting changes are larger, we must understand the situation of sectional scouring and silting, the shift of the main flow, the horizontal specific fall, the intersections of the main flow and structures in the water such as bridges at a high water level. The flood discharge ability of the embankments can be determined by analyzing the water surface lines of past floods and the curve of the relationship between the water level and the amount of flow at each station within the river segment. The lowest and the average water levels causing danger in the river segment can be derived by studying dangerous situations of the embankment which occurred at different water levels of past floods. Knowledge about the amount of flow over flat beaches is mainly used for seizing the time to harvest crops planted on the beaches. The knowledge about the amount of flow over level embankments is used generally to calculate the maximum downstream discharge the enbankment may possibly bear after elevating the secondary low banks between fields. Water blocked by bridges may dam up the upstream water level. We can use hydraulic or hydrological methods to calculate the difference between the upstream and downstream water levels. In river segments with dynamic river beds where the sections change drastically,

the direction of flow of the trunk water flow and the bridge do not intersect at right angles and thus the amount of downstream discharge is reduced. The amount of downward discharge at the time the direction of flow changes and the water surface line of the upstream backwater section can be calculated by hydraulic or hydrological methods.

2. The effect of medium and small (I) reservoirs on the tributaries upon the regulation, storage and discharge of flood waters. Generally, we can understand the situation of the flood waters entering the reservoir, the water level in the reservoir and the discharge from flood forecasting radio stations or telephone reports, and thus understand their clipping function in the course of the flood. Because of improper use, some reservoirs have to increase the amount of downstream discharge of continuous floods to guarantee the safety of the large dam. We must also consider this unfavorable effect. For medium reservoirs with a reservoir capacity over 10 million cubic meters, we must first calculate the amount of overflow of water over the dam at various high water levels. For earth dams, we should generally estimate its gradual downward shearing and enlargement of the sluicing mouth to derive the amount of flow of the peak of the flood that will cause the dam to collapse. For concrete dams, we should generally consider the use of the formula for calculating the instantaneous collapse of the dam. After calculating the flow line of the amount of flow that will cause the dam to collapse at the dam site, we then derive the amount of flow at the peak of the flood water and the flow line of the water reaching a certain town in the hydrological section. In this way, when a certain reservoir shows signs of danger and may possibly burst, we can find the amount of flow of the peak of the flood at the town downstream when the dam collapses by how fast the water level of the reservoir rises and this information can be used by flood prevention departments.

3. We must understand at all times the amount of water diverted along the river and the situation of diverting water from other river valleys to revise the forecasts.

During the 32 years since the founding of the nation, many diversion projects have been built on rivers. Some rivers have both diversion projects on the rivers themselves and diversion projects that span several river valleys and divert water from other river valleys. General diversion projects all have manually controlled floodgates or natural diversion weirs at the diversion point. The amount of diverted water of the single tunnel (or single width) and its relationship with the water level can both be derived using hydraulic formulas and their coefficients can mostly be determined by experiment using models. If hydrological stations have been set up downstream from the sluice gate weir and if there are hydrological testing data, then the coefficients can be approximately determined, and their precision can be more reliable. The flood prevention and forecasting departments must grasp these data and draw the relationship between it and the water level of nearby hydrological stations for future use. When water is diverted from other river basins, the predetermined diversion points that span river basins should be made in the flood reports. The mouth of the diversion conduit should be made the outflow and the opening of the other river basin should be made the inflow, and the forecast should be revised whenever possible according to the data provided by the flood reports. For example, the Tuhe and Maxiahe river valleys inside Shandong Province frequently diverted water from the Huanghe for irrigation. When torrential rains occur as the water of the Huanghe is being diverted to the river basin, although the gates are immediately shut down, the amount of water that had already been diverted into the river troughs of the river valley, the variation of the water content in the soil within a fixed area of both sides of the diverted river channel and the rise of the underground water level caused by the diverted water should still be calculated. These effects must be considered in time before we can correctly forecast flood waters from the torrential rain in the valley basin.

4. The characteristics of the flood-diversion area must be grasped.

The flood-diversion area that has been determined in the flood prevention plan and that has intake and outflow control floodgates, such as Changjiang's Jinjiang flood-diversion area, mostly has complete information such as the water level both upstream and downstream from the intake floodgate, the curve of the relationship between the height of the opening of the floodgate and the amount of the incoming flood water flow, the curve of the relationship between the water level and the volume of the flood-diversion area and the water level both upstream and downstream from the discharge floodgate, the curve of the relationship between the height of the opening of the floodgate and the amount of the discharged flood water flow. They can basically satisfy computational needs. But, when we encounter especially large flood waters and have to temporarily open up a flood-diversion area, such as the People's Embankment in the Jinjiang section where there are no controlling floodgates and where temporary embankments have to be set up to divert the flood water, the embankments downstream frequently have to be removed to allow the flood water to discharge into the main trunk [sic] river again and to temporarily become a flood water lake during the latter part of diverting the flood waters. When such a temporary flood-diversion area diverts the flood water, the flow of the diverted flood water must be calculated by the flood prevention department. By so doing, the department must understand the conditions under which the water passes through the floodgate such as the width and the average depth of water at the gate, the water level behind the embankment. Then the specific fall of the downstream water surface at the mouth of the trunk flow is used to calculate the amount of water flow of the downstream discharge. By comparing this with incoming water upstread we can check the amount of flow of the diverted waters at the gate. The coefficient of the corrected formula for the flow over the weir can be used to calculate the amount of flow of the diverted waters at the funnel mouth of other embankments in the river segment. The corresponding interior water level in the area of water accumulation inside this temporary flood-diversion area can be found on the map. This is the initially derived water level inside the flood-diversion area. Then we can calculate the interior water level at the end of each period, determine the exact moment when the normal free flow changes to flood, and plot the course of the flow and volume of the incoming flood waters that are gradually diminishing at the time of diversion. We can then determine when is the appropriate time to discharge the water downstream in the flood-diversion area.

5. Outlet control gates and their impact in river channels

The outlet control gates in river channels regulate the release of water to prevent flooding and to store water for drought resistence. At present, gates have been built in many river streams. Because most efforts before the arrival of big torrential rains are to resist drought, therefore, the use of controlling gates in river channels is a factor that cannot be neglected. Let us set aside temporarily the issues of anti-flood management and organization. The forecasters involved in the work of flood prevention, should familiarize themselves and grasp the designs and data materials of these in order to cooperate and utilize these gates correctly. For example, the conditions are laid out in the design on the amount of flood discharge, the corresponding water level and the fall upstream and downstream of the operating gates, the maximum operating head of the gates and the surplus flow exceeding the level of discharge when the water floods over the gates, determination of the downstream flooding area when the embankments on both sides burst, and the relationship between the water level upstream of the operating gate when the gate closes, and the amount of water stored in the river channel. These data not only are needed in revising flood forecasts, they are also necessary in further modifying the forecast. When making actual forecasts, we must especially pay attention to the inspection and the testing of the discharge coefficient of the operating gates when the water level is high (ordinary floodgates lack the capability to determine the discharge rate for high water portions). Only after grasping these key data, can we gradually make more reliable forecasts of river segments that have floodgates.

6. The effects of large key water conservancy projects

The data on large key water conservancy projects on river channels are relatively complete and there is a network of flood reporting stations especially set up for them. For example, Sanmenxia on the Huanghe, Dahuofang on the Hunhe, Guangting Reservoir on the Yongdinghe generally do not have many problems with gathering information and forecasting. The key is to control the flood waters that have discharged into the downstream areas and to handle any possible continuous flood water that may occur upstread. The plans for discharging the flow is calculated from the forecasts of incoming water into the upstream and downstream areas. The safety of the large dam must be guaranteed and the downstream discharge must be controlled to prevent any damage to the downstream area by discharging flood waters. Even when damage is unavoidable, we must still propose the most rational discharge plan to lessen the damage by flood waters as much as possible. According to the discharging plan, we can synchronize the information on flood in all areas to forecast the course of flood waters at all of the downstream places.

7. The effects of small surface water conservancy and water conservation projects

Generally, surface projects do not have a source of information during the flooding stage, therefore, there can only be rough estimates. The effect of surface projects on slopes can only be estimated by analyzing the hydrological data of a year ago or several years ago, and the information is used to revise the forecasting plan. The amount of water at the bottom of small (II) reservoirs or large ponds or dams that are widely distributed is different before the occurrence of each flood from torrential rain, and the situation of every small (II) reservoir is also very different, therefore it is very difficult to estimate. When there are many small (II) reservoirs in a river basin that is seriously damaged by flood, only a portion of these small reservoirs has flood reporting conditions. In this situation, it is necessary and also possible to estimate the effect. There are many methods of estimation. This writer had mentioned one method in an article published in the SHUILI XUEBAO [WATER CONSERVANCY JOURNAL] of October, 1959. We should clearly survey all of the small surface stations in the river basin and their controlled water level during the flooding period and the reservoir capacity to prevent flooding, and the relationship between the height of the dam and depth of the water in the reservoirs and the amount of discharge. Then we should generalize them as one reservoir and derive the relationship between the average depth of water and the total reservoir capacity for flood prevention, and the relationship between the average depth of water and the total amount of discharge. With these relationships, we can develop computations for the reservoir by combining these relationships with the relationship between rainfall and runoff. But when rainfall is heavy, we should also compare the amount of torrential rainfall and the capacity of the reservoir in order to take measure against floods and estimate the amount of flow from small (II) reservoirs that might burst and from dams that might collapse.

Water conservancy projects do affect floods to varying degrees in rivers in the eastern half of our nation. It is not wise to completely neglect these factors. Under present conditions, an overall understanding of the projects within the river valley, making necessary estimates according to hydraulic and hydrological data gathered and according to a portion of the real-time information to revise forecasts will help us avoid making major errors in forecasting.

(IV) Flood Forecasting Must Be Combined With Flood Dispatching In Order to Better Perform the Task of Flood Prevention.

Simply forecasting floods does not serve a great function when especially large floods are encountered. This is because when such situations occur, frequently, the ability of the existing embankments to discharge floods has already been surpassed, and we must take the initiative to separately discharge a part of the flood water and sacrifice a smaller flooded area in exchange for victory in overall flood prevention. We must combine forecasting with the dispatching of floods before we can realize greater results. To facilitate understanding, we will take the actual case of preventing the big flood of the Changjiang and Huaihe in 1954 as an explanation.

1. Changjiang: During the last 10 days of July, 1954, diversion had already taken place in the Jinjiang flood-diversion area. At the time, the peak flood had already passed. The north floodgate at Taipingkou (intake floodgate) was still open to continue to take in flood waters. The reason that we did not dare to close the floodgate was that the downstream water level at Jianli

was level with the top of the embankment and we were building a secondary low bank between fields for fear that after the floodgate closed, the water level would rise. But, August and September are the time when the Chuanjiang brings water, and the chance of the greatest flood of the year occurring in August is the highest in the Chuanjiang. At this time, the remaining capacity in the Jinjiang flood-diversion area was already very small, and we had to close the intake floodgate and use the south floodgate (the discharge floodgate) to drain the water from the Huduhe into Dongting Lake, so that the empty part of the reservoir would have room to receive the Chuanjiang flood waters in August. But, would the Jianli water level rise after closing the north floodgate? We conscientiously analyzed and studied and discovered that the water level at Jianli was higher than the corresponding water levels at Shashi and Jianli by several meters under ordinary conditions. The water level was mainly controlled by the water level at Lingji, the town at the eastern mouth of Dongting Lake (representing the water level of the large body of water), while the water in the four rivers leading into Dongting Lake was receding. The incoming water from the four river mouths had already stabilized. The amount of stored water in the entire Dongting Lake and the eastern Dongting Lake area had reached the maximum value (about 34 billion cubic meters and 16.8 cubic meters). Therefore, closing the north floodgate to divert the flood waters at Jinjiang would not cause the water level at Jianli to rise. A decision was made at a departmental meeting to notify us to immediately close the north floodgate and open the south floodgate completely to make as much as we can of the reservoir capacity. The north floodgate was thus closed on July 27. As expected, during the first 10 days of August, torrential rain fell over Jialingjiang. At the time, there were only a few rain guaging stations and there were only a few years of data. We used only the information of eight floods, five floods between June and September, 1952 and three floods in July, 1954, to analyze the relationship between the average amount and the net amount of rainfall in the flow producing area. This relationship was very good. Also, because the area of the river basis was too large (about 160,000 square kilometers), we could not use unit lines so we changed to using standard runoff distribution curves. Using these two tools, we forecast the course of flow at Dongjintuo, the outlet spillway of the Jialingjiang. Then we used the combined flow to forecast the course of flow at Cuntan Station in Chongqing on the main stream of the Changjiang. We then derived the amount of downstream flood water and calculated that the highest water level in shashi would reach 45.63 meters if the flood waters were not diverted. To keep the water level at Shashi at or below 44.49 meters as much as possible, we still needed to separately store 2.5 billion cubic meters of flood water. At the time, the flood-diversion area had already stored 4.8 billion cubic meters, and it could not take in any more. Therefore, we proposed a plan to break open the eastern embankment of Huduhe to separately store the flood waters and thus the highest actual water level in Shashi was controlled at 44.67 meters (0.18 meters higher than the guaranteed water level). We preserved the large embankment of Jinjiang and the production of the several million mu of farmland on the northern bank, the lives and the safety of the people. After making a flood forecast, we continued as a matter of course to modify and readjust in diverting flood waters. The latter is the true goal in flood prevention, and when combined with previous efforts, we will be able to develop a greater "advisory" function.

2. Huaihe: During the middle 10 days of July in 1954, all of the flood water storing area beyond Zhengyangguan on the Huaihe had already been filled. After 15 July, a third torrential rain occurred over the Huaihe. The center of the rainstorm was over the middle and lower reaches of the Shayinhe, over the Huaihe's tributary, the Shihe and over the Weihe river basin. At the time, the flood waters at the upper reaches of the main stream of the Huaihe had not receded. With the water coming from the Jinhe, the Shihe and the Weihe, the large Huaibei embankment below Zhengyangguan was threatened. According to calculations of the flood waters, the forecast flow of the flood peak at the Zhengyangguan was 9,780 cubic meters per second, surpassing the high water level of 9,000 cubic meters per second and this would last for 4 days. If we used Wabuhu and Shouxihu to store the flood water, the amount of flow at the flood peak could be reduced to 7,680 cubic meters per second. Therefore, at 0030 hours on July 20, the most serious threat to the large Huaibei embankment was removed (the large Huaibei embankment protected the safety of nearly 10 million mu of farmland in the Xuaibei plain and the medium and small towns in the two prefectures of Fuyang and Shuxian). But the serious threat was still to come. If the large embankment of Hongzehu or the large embankments of Gaoyouhu and Liyunhe burst, 10 million mu of farmland in norther Jiangsu and a large number of towns would be flooded. All of the flood waters of the Huaihe would have to pass through Hongzehu for downstream discharge. Besides the main irrigation canal which diverted and discharged 800 cubic meters per second of flood water, the rest must all pass through the Sanhe floodgate (with a designed flood discharge of 8,000 cubic meters per second) and discharge into Gaoyou and Baoying Lakes (abbreviated Gaobaohu), and then discharge via spillways into Changjiang. To guarantee the safety of the large embankment of the Hongzehu, the highest water level at Jiangba should not surpass 15.2 meters. To prevent the embankments of Gaoyouhu and Liyunhe from bursting, the highest water level in Gaoyouhe should not surpass 9.5 meters. Therefore, after forecasting the course of the amount of waterflow entering Hongzehu, there were still two problems that had to be solved: the amount of rainfall over the area surrounding Hongzehu and on the surface of the lake during the forecast period and a plan to utilize the Sanhe floodgate. Concerning the first problem, we referred to rainfall data over the lake area during the same periods in the past, especially analyzed and studied the amount of rainfall during the latter period of the big 1931 flood. Because the amount of rainfall was not large, we made a slightly safer estimate and the effects were very small. Therefore, the key of the question was the plan to utilize the Sanhe floodgate. If we increased the amount of flow at the beginning, the water level in Hongzehu would quickly drop, and the outflow from the Sanhe floodgate would be small, but the water level in Gaobaohu would rise quickly. The amount of discharge into the spillways in the Changjiang could be increased. If the Sanhe floodgate could not control the downstream discharge in time, it was very possible that the water level in Hongzehu would be lower than 15.0 meters while the water level in Gaobaohu would surpass 9.5 meters. Conversely, when the Sanhe floodgate reduced the amount of flow to force the water level in Hongzehu to rise, then because the water level in Gaobaohu was lower and the amount of water flowing into the Changjiang via spillways was small, there was the possibility that the water level of Hongzehu would surpass 15.2 meters. The best plan was to keep the water levels in Hongzehu

and Gaobaohu both below 15.2 meters and 9.5 meters respectively, and to maximize the flood prevention capacity each lake shared. At the time, to guarantee the safety of the Lixiahe area in northern Jiangsu Province, somebody proposed to build a temporary flood-diversion embankment employing 300,000 workers, diverting the flood waters north of the main irrigation canal in northern Jiangsu and south of the temporary flood-diversion embankment and let the flood water flow into the sea. This plan involved mobilizing a massive labor force, spending large funds, and flooding some of the land, but yet it could not ensure that the new embankment would allow water to pass. Therefore, we calculated the various plans of utilizing the Sanhe floodgate in order to rationally utilize the reservoir capacities of Hongzehu and Gaobaohu and the capability of the spillways leading into the Changjiang to discharge the flood. At the time, there were no computers. Everything had to be calculated by conventional methods. Finally, the best plan was found. The Sanhe floodgate was opened to discharge the flood waters until the water level in Gaoyouhu reached 9.2 meters. The Sanhe floodgate controlled the downstream discharge at 9,000 cubic meters per second. When the water level in Gaoyouhe rose to 9.4 meters, Sanhe floodgate controlled the downstream discharge at 8,500 cubic meters per second. Using this control method, we forecast that the highest water level at Jiangba in Hongzehu would be 15.20 meters, the highest water level of Gaoyouhu would be 9.40 meters, and this was a more ideal operating method. After operating the Sanhe floodgate according to this plan, we avoided building a new embankment to divert the flood water and to guide the water into the sea. By so doing, we could still guarantee the safety of the Lixiahe area in norther Jiangsu Province. The highest water level actually measured at Jiangba in Hongzehu during the operation coincided with the forecasts. The highest water level in Gaoyouhu was 9.32 meters, a difference of 8 centimeters.

The above example further shows the significance of combining forecasting methods with flood prevention and control methods.

Conclusion: The problems that we may encounter in actual forecasting in the effort to fight floods will be very complicated. This article has only briefly introduced several problems that should be noted. Of course, not everything is included. But, in view of the above description, we can already demonstrate that simply relying on the forecasting plan is insufficient. To be a good forecaster, familiarity with the hydrological and meteorological characteristics of the specific river basin and human activity and especially the situation of water conservancy and its protection projects is very important. In addition, flood forecasts can function as the "ears and eyes" of flood prevention work, and by combining forecasting efforts with flood water control we can give full play to this "aid" function. This function is very obvious in actual flood prevention.

9296
CSO: 4007/576

'GUANGMING RIBAO' ON PRC AGRICULTURAL STRATEGY

HK161210 Beijing GUANGMING RIBAO in Chinese 7 Nov 82 p 4

["Economics Trend" column: "Summary of Views Put Forward at the Symposium Held by the Chinese Agricultural Economics Society"]

[Text] The Chinese Agricultural Economics Society held its 1982 symposium in Hefei during the last 10 days of October. The meeting discussed China's strategy for agricultural development and the agricultural responsibility system. We now summarize the main views put forward at the symposium as follows:

China's Strategy for Agricultural Development and Ways to Achieve It

With respect to China's strategic objective of agricultural development, different views were put forward at the meeting. There was a view which held that, fundamentally speaking, China's strategic objective of agricultural development is to achieve modernization of China's agriculture, that is, to have a developed agriculture, prosperous rural areas and a good environment. Another view held that China's future agricultural development should be centered on developing commodity agriculture, ecological agriculture and scientific and technological agriculture and changing the self-sufficiency, disproportion and the present state based on traditional experience.

With respect to the ways of achieving China's strategy for agricultural development, some comrades aired their views as follows: the fundamental way to develop China's agricultural production is, on the basis of improving land productivity, improve agricultural labor productivity. At the same time, with regard to the content of production, it is necessary to reform the agricultural production and rural industrial structure. Reforms in agricultural production refer to a shift from paying exclusive attention to grain and viewing things from the angle of 1.5 billion mu of cultivated land to paying simultaneous and vigorous attention to diversified undertakings and viewing things from the angle of 9.6 million square kilometers of our territory and taking the road of all-round development of agriculture, forestry, animal husbandry, sideline occupation and fishery. Reforms in the rural industrial structure refer to the gradual development of comprehensive operation by agriculture, industry and commerce. Some comrades emphatically pointed out that it is necessary to pay attention to the "rate of formation." In organizing production, it is necessary to reform the structure of agricultural production areas and the administrative structure of enterprises. That is to say, it is necessary to shift from the structure of "small but complete" areas and enterprises to specialized production in order to constantly improve the standard of mass agricultural production. With respect to the key element of productive forces, it is necessary to readjust and reform the structure of rural labor force technology and energy resources: We should absorb, by means of developing the range and quality of production, the surplus labor force in the rural areas and gradually transform them on the spot into nonagricultural population; we should reform the structure of agricultural technology by taking the road of integrating organic agriculture with inorganic agriculture; in reforming energy resources in the rural areas, great attention should be paid to the utilization of biological energy but it is also necessary to increase the supply of industrial energy such as petroleum, coal and electricity. With respect to the utilization of soil, we should take the road of intensive farming and pay attention to the expansion and protection of agricultural land. The core of agricultural development strategy is to improve economic results. We should base ourselves on this when determining and testing the ways and measures for achieving agricultural development strategy.

Grain strategy is a basic strategy of our agriculture. We should apply the strategic thinking of integrating long-term with short-term planning to guide and solve China's grain problem. Reliance on the existing cultivated land can only slightly ameliorate China's grain shortage. In order to fundamentally solve the grain problem, we should rely on 14.4 billion mu of our territory. We should base ourselves on the existing land for growing grain and have the whole territory in mind. At present, we should stabilize the acreage of commodity grain-growing areas. Resolute steps should be taken to readjust the high-yield cultivated land suitable for growing grain which has been planted with low-yield industrial crops.

The Contract System Based on Output with Household as Production Unit Will Exist for a Long Time to Come

The comrades who spoke at the meeting hold that the contract system based on output with a peasant household as the unit is a form of socialist cooperative economy. Some comrades expounded this point from the following three aspects: 1) It is an economic structure integrating a unified administration with a decentralized one, with the one being interdependent on the other. 2) It is a form of contract and distribution in a production team based on unified accounting. 3) The households signing contracts based on output will develop in the direction of a union based on specialization.

Quite a few comrades held that the contract system based on output with the peasant household as a production unit conforms to China's characteristics. It has been chosen by the peasant masses after many years of practice and it will exist for a long time to come. The essential basis they provided are as follows:

1. The relative stability of blood relationship in the household of Chinese society. In China, the organizational form of taking a household as the production unit goes back to ancient times. At present, China's agricultural production is still conducted in a decentralized manner and is primarily done by hand. Under these circumstances, this form, which is readily acceptable to the peasant masses, has a relatively stronger force of inner attraction.

2. The requirement of the feature of agricultural production. Some comrades held that the technological level of our agriculture was low. The previous method of great concentration (concentration of property, management, distribution and labor) was practically a method of running agriculture with the method of running industry. The organic structure of capital in modern industry is very high, its division of labor is well-organized and each producer only undertakes work for a certain link. It has both fixed quantitative and qualitative requirements and scientific means of inspection. Therefore, we must and are able to conduct concentrated management in industry. However, this method cannot be applied in the present agriculture which has a very low level. Agriculture is the production of living materials. The conditions to which it is related are more complicated than those of industry and various factors such as weather, soil and the contents of fertilizers and water constantly change. Unless future agriculture can be turned into factory production, it will be necessary for laborers to make frequent responses and policy decisions according to circumstances. This makes it necessary for the agricultural administrators and producers to be in unity as much as possible. Therefore, it is relatively appropriate to have a household as the production unit. Some comrades also raised a question from another angle. In agricultural production, due to the considerable influence of natural force, the circulating labor thrown into production is frequently out of proportion to the final yield of labor. The unified calculation of workpoints on the basis of work done has brought about a lot of problems. The adoption of the contract system can prevent contradictions because it places the final responsibility for production on the households. At the same time, agriculture also has a feature characterized by the intermittence of labor. By adopting a household as the production unit, the peasant households can make full use of the intermittent time to engage in diversified undertakings and make a comprehensive utilization of various agricultural and sideline products in a more effective way.

The comrades who spoke at the meeting said that the current contract system based on output with a household as the production unit is a very "flexible" organizational form. Viewed from the practical experiences at home and abroad, it not only suits the present needs but also the future needs for achieving agricultural modernization. Therefore, this organizational form will exist in China for a long time to come. Some people, basing themselves on their previous long and habitual understanding, regard the contract system based on output with a household as the production unit as a retreat, a provisional measure or an expediency. The peasants do not feel at ease with this either. A clear definition of the protracted nature of this organizational form will help to ease their minds.

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PRC PEASANTS' PURCHASING POWER INCREASES

OW151421 Beijing XINHUA Domestic Service in Chinese 0047 GMT 15 Nov 82

[Excerpts] Beijing, 15 Nov (XINHUA)--What will be the trends in the brisk rural market after the autumn harvest this year? The recent surveys of supply and marketing cooperatives in some provinces and municipalities show: The peasants' purchasing power after the autumn harvest this year will continue to increase by a big margin, the brisk market will come earlier and persist longer in the countryside this year and there will be some changes in the direction in which peasants will use their purchasing power.

Rural market surveys have been conducted by supply and marketing cooperatives in Zhejiang, Jiangsu, Hunan, Hubei, Shandong, Henan, Heilongjiang, Jilin, Liaoning, Gansu, Guizhou, Sichuan, Guangdong, Anhui, Shanghai and Shanxi.

The Hubei provincial supply and marketing cooperative has conducted a sampling survey of 214 peasant households scattered throughout the province, which shows that each household's income from agricultural and sideline production this year will increase 33.5 percent over last year and that each household's average income will be 1,178 yuan. A survey of 310 peasant households shows that each of the households will spend more than 700 yuan in the market, a 33 percent increase over last year.

The surveys of some rural areas show that since large numbers of commune members are anxious to increase production after the institution of the production responsibility system, they now give first priority to buying means of agricultural production. The amount of money 139 peasant households in Jiangsu have used to buy means of agricultural production after this year's autumn harvest has increased 47.8 percent over last year.

The surveys conducted in various areas show that after buying means of production and building houses, many peasants will spend their money mainly on consumption articles. Famous-brand bicycles, sewing machines and desk clocks are still very much welcomed by people in the countryside.

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METHODS OF SOWING WHEAT IN FURROWS EXPLAINED

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 9, 20 Sep 82 p 11

[Article by Li Jiwu [2621 4949 2976], Crop Institute, Chinese Academy of Agricultural Sciences: "Markedly Increased Yields From Furrow Sowing of Wheat and Concentrated Fertilization"]

[Text] A combination of sowing wheat in furrows, concentrated fertilization, and compacting of the soil links traditional experience to modern scientific techniques for all-around measures in crop resistance, consistent yields, and increased yeidls. This results in pronounced consistently increased yields particularly in arid, infertile, aline-alkaline land, and in the far-flung moderate and low yield of the arid northwest.

Advantages

(1) Sowing of seeds in deep furrows covered with a shallow layer of soil is a way to get enough soil moisture in arid places to be able to sow wheat, and to sow more wheat on time. Since soil moisture conditions in the bottoms of furrows are better relative to the soil surface, seedlings grow evenly, completely, and quickly, and their root systems develop. They are able to absorb a great deal and plants are sturdy, with the result that the wheat's drought resistance is increased.

(2) In places where wheat is prone to freeze damage, use of the deep furrow, light cover method of sowing makes the plants grow sturdy, and it can lower the position in the ground of tillering nodes. When tillering nodes are relatively deep in the soil where soil moisture conditions are better and there is less variation in temperatures, soil temperatures are evened out, and the number of dead seedlings resulting from freeze damage to tillering nodes is reduced. Furrow sowing also helps accumulate snow to withstand cold. This both saves work and trouble as compared with covering the wheat with sand or pulverized soil.

(3) Inasmuch as soil alkalinity and salinity is distributed in a "T" shape, by forrow sowing wheat in saline-alkaline areas opening of the furrows pushes the salt toward the ridge along the top of the furrow where it tends to concentrate serving to protect the seedling from coming in contact with it down in the furrow. Seedling roots and tillers develop commensurately enabling the plants themselves to increase their ability to withstand salinity and alkalinity.

(4) Watering fills the seeding furrows with soil, which checks the growth of small tillers and promotes growth of large tillers. In addition, the base nodes of wheat stalks are buried in the soil and are able to grow node roots, thereby greatly increasing the wheat's capacity to absorb nutrients and resist lodging. This is a good way in which to yet high yields without lodging.

(5) When sowing in furrows is combined with hilling, the back of the furrow becomes a trough, and because of the deepening of the location of the rhizosphere, the temperature of the rhizosphere is relatively low and constant. This can strengthen the root system's vitality and prevent premature degeneration of the root system for relatively good results in increasing plant ability to withstand hot dry winds during its later stages of growth.

(6) Furrow sowing in combination with concentrated fertilization entails placing the fertilizer beside the seeds, the fertilizer and the seeds being separated from each other. Nutrients are concentrated and the fertilizer utilization rate is high.

(7) Furrow sowing in hilly areas can reduce ground runoff and prevent soil erosion. In irrigated areas, when used in combination with furrow irrigation, a saving in water can be effected.

(8) Compacting the soil plays an important role in arid areas in increasing soil and conserving soil moisture.

Results of experiments everywher show that furrowsowing has brought varying degrees of inrease in yields. Take Beijing Municipality as an example. Comparison of figures for furrow sowing and flat sowing in 15 cases showed yield increases of less than 10 percent in 40 percent of the cases. Yield increases of from 10 to 20 percent occured in 33 percent of the cases. In 27 percent of the cases, yield increases were above 20 percent. Another example was Hengshui Prefecture in Hebei Province where statistics from seven places showed average yields of 469.7 jin per mu from furrowsowing versus yields of 417.8 jin per mu from flat sowing, 51.9 jin per mu more from furrow sowing for a 12.4 percent increase. Four places were in low yield areas where the average yield from furrow sowing was 208.3 jin per mu and 169.9 jin per mu for flat sowing, which was 39.4 jin per mu, or 22.6 percent, more from furrow sowing. When furrow sowing was used in arid and alkaline medium or low yield level field plots, the extent of increase in yields was greater.

Method

The specific method used in furrow sowing of wheat may be roughly divided into the following steps:

The first is use of the interchangeable machine chassis used by the Crop Institute of the Chinese Academy of Agricultural Sciences for furrowing, concentrated fertilizing (60 jin per mu of ammonium bicarbonate and 100 jin of calcium superphosphate), and soil compacting, which are completed in a single combined operation. The furrow sowing machine uses a hoe-shaped furrowing device to make furrows that are 1.2 chi wide and 3 cun deep. Two rows of seeds are sown in each furrow, the two rows being 4 cun apart and the furrows being 8 cun from each other. The seeds are covered with 3 to 4 centimeters of soil. The calcium superphosphate is air dried, pulverized, sifted, and blended with the ammonium bicarbonate and a vibrating fertilizing device spreads the mixed fertilizer along the sides of the two rows of seeds in the furrow, 2 to 3 centimeters apart. When sowing is done, the soil is rolled to bring up soil moisture.

The second kind is the furrow seeding method used in places like suburban Beijing. On the front of the seed sowing machine is mounted six boot-shaped spades that do the furrowing, and a single disc double row comination furrowing device follows along the furrow to sow the seeds. The furrow is 1.2 chi wide, and two rows of seeds are sown in each furrow, the rows being 3 cun apart and the furrows being 6 cun from each other. Alternatively furrows may be 6 cun apart with a single row of seeds being planted in each furrow. An outside trough rotary fertilizing device spreads a flow of nitrogenous fertilizer such as urea or ammonium sulfate at a maximum 45 jin per mu. It cannot spread calcium superphosphate. Behind the machine is a cast place-like circular rolling device that flattens the furrows.

The third kind is a furrowing machine attached to a hand tractor that has been promoted in Shaanxi Province. It opens six furrows at one time, each of them 18 centimeters wide. Mounted on the furrow sowing machine is a fertilizer bin and a seed bin. The fertilizer bin bholds pulverized calcium superphosphate. Nitrogenous fertilizer is mixed with the seeds in the seed bin, and is spread simultaneously with the seeds. After sowing is done, the soil is compacted. When fertilizing (calcium superphosphate being applied to a depth of a 8 centimeters), both the seeds and the nitrogenous fertilizer are sown to a depth of 3 to 4 centimeters after which the soil is compacted. All four operations are completed at one time.

Cautions

(1) Furrowing and sowing of seeds cannot be readily separated, particularly in drylands. Practice has shown that a combination machine that furrows, fertilizes, sows, and compacts in one continuous operation is best.

(2) Furrow-sown wheat fields are easily prone to burial under windblown sand and watering of silted furrows may press down on tillers causing insufficient spiking per mu. Care should be taken to increase the amount of seeds sown to enlarge the number of plant colonies in order to assure a sufficient number of spikes.

(3) In order to increase the soil utilization rate, in field plots that are relatively fertile furrow width should be increased so that two rows may be planted in each furrow.

(4) In saline-alkaline areas, after furrow-sowing has been completed, compacting of the soil should not be done nor should the soil be hilled up around plants.

9432
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REVISED FORMULA FOR CALCULATING SEED NEEDS EXPLAINED

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 9, 20 Sep 82 p 3

[Article by Chen Zhenming [7115 2973 2494], Xianning Prefecture Agricultural Institute, Hubei Province: "Correction of Quantities Needed for Seeding on Basis of Per 1,000 Seed Weight"]

[Text] In the course of experiments when quantities of seeds needed for the sowing of paddy rice and wheat had to be generally determined, the following formula was used:

$$\text{Actual Amount of Seeds to be Sown} = \frac{\text{Planned Amount of Seeds Sown (Jin Mu}}{\text{Cost of Using Seeds}}$$

with cost of using seeds = Degree of seed cleanliness x sprouting rate ÷ 100. The shortcoming of this formula is that is has not taken into consideration the different per thousand (or per hundred) weight of seeds for different varieties of crops, which varies greatly. As growing seasons and farming conditions change, for the same variety seed weights change correspondingly. For example, by using the above formula to calculate quantity of seeds to be sown, the weight obtained for large seeds may be right, but the weight obtained for small ones may be overly large. In order to increase accuracy of experiments, I worked out the following corrected formula based on the per thousand seed weight:

Planned Amount of Seeds to be Sown (Jin/mu) = Standard Quantity of Seeds to be Sown (10,000/mu) x per thousand weight x 2 ÷ 100.

Since the corrected formula divisor is 100, after multiplying the standard quantity of seeds to be sown (10,000 seeds/mu) by twice the per thousand weight of the seeds (or 20 times the per 100 weight of seeds) and moving the decimal point two places to the left, the planned amount of seeds to be sown (jin/mu) can be derived.

For example, in comparative experiments of certain paddy rice varieties, it was determined that for the seedling field the standard quantity of seeds to be sown was 4 million seeds/mu. For variety A, the per 1,000 weight was 30 grams, so the planned amount of seeds of that variety to be sown = 400 x 30 x 2 = 240.00 (jin/mu). For variety B, the per 1,000 weight was 25 grams, so the planned amount of seed worked out according to the formula was 200 jin/mu. For variety C, the per thousand weight was 20 grams, so the planned amount of seeds worked out by the formula was 160 jin/mu., After calculating the planned quantity of seeds to be sown according to the foregoing corrected formula, on the basis of seed use cost the actual quantity of seeds per mu can be derived. For dryland crops, in addition to these calculations, it will also be necessary to estimate the field sprouting rate in order to determine the actual quantity of seeds to be sown per mu.

9432
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DOUBLE-CONTRACT ECONOMIC SYSTEM

HK111126 Beijing GUANGMING RIBAO in Chinese 31 Oct 82 p 3

[Article by Zhang Guangyou [1728 1684 0645]: "A Probe Into the Trends of Developing the 'Double-Contract' Responsibility System"--passages within slantlines published in boldface]

[Text] Since the 3d plenary session of the 11th CPC Central Committee, our rural areas have generally established and perfected all forms of the production responsibility system. The enthusiasm of the masses of peasants has been aroused and a heartening picture of prosperity in our agricultural production has emerged. Through several years of repeated practice, contrast and selection, the double-contract responsibility system (the system of assigning the households full responsibility for task completion and the system of setting fixed output quotas for each household) now plays a leading role in China's rural areas and has become the principal responsibility system. According to incomplete statistics, the double-contract responsibility system is practiced in more than 70 percent of China's rural areas. In Guizhou, Gansu, Anhui, the Nei Monggol Autonomous Region, Fujian, Henan, Ningxia and Hunan, the system is practiced in more than 90 percent of their rural areas. Most of the households which practice the double-contract responsibility system practice the system of "assigning the households full responsibility for task completion" and this responsibility system is still developing in some provinces and regions. Thus the question of how this responsibility system developes in the future is one which attracts the attention of people.

//It Is Necessary to Clarify the Nature of the "Double-Contract" Responsibility System//

In order to clearly determine the trend of development for the "double-contract" responsibility system, particularly the trend of development of the system of assigning the household full responsibility for task completion, first of all it is necessary to clarify a condition, that is, the nature of the "double-contract" responsibility system. In October 1981, Comrade Hu Yaobang met delegates to the meeting on rural work in China. He said to them: "Our policy has not shattered the collective economy. Land, the most basic means of production, is still owned by the collectives. The contract itself tells us that the nature of the system of collective ownership is not changed. The peasant used to say 'distribute the land.' It is incorrect to say that the system of assigning the households full responsibility for task completion is to 'distribute the land and work on one's own'." A large number of facts prove that: The "double-contract" responsibility system is not to "distribute the land and work on one's own," it is not individual economy and it is absolutely different from the small-scale peasant economy before the liberation. It is a form of the responsibility system which suits the actual conditions of most areas in China and is well received by the masses of peasants.

But there are a few people who hold that "the 'double-contract responsibility system' divorces ownership from the right of use. Ownership no longer plays the decisive role. Thus the 'double-contract responsibility system' is in fact land distribution." Such views are of course not in accordance with reality. In production relations, the ownership of the means of production plays a decisive role, and there is no exception in any society. In a feudal society, ownership of the land belonged to the landlords. Land was rented by the peasants for cultivation and the right of use belonged to the peasants. In that case, can we say that the ownership of land did not play a decisive role? Our society is basically different from a feudal society, but the right of use is still not the same as ownership. Production brigades can still exercise their right of ownership and announce that fields under the system of setting fixed output quotas for each household are taken back or adjusted; the users of the land do not have the right to handle the land. No matter whether it is under the system of assigning the households full responsibility for task completion or under the system of setting fixed output quotas for each household, the land is still owned by the collective and not by individuals. There are still some who say that: "The system of public ownership of land cannot determine the nature of the 'double-contract responsibility system.' There are capitalist states which practice the system of state ownership of land, so can we say that this is a socialist feature?" Those who hold such views have forgotten the most fundamental presupposition that our country is characterized by dictatorship of the proletariat; they have forgotten that the problem we study is a problem of socialist China under the leadership of the communist party.

Of course, in implementing any responsibility system, it is inevitable that there will be all sorts of questions and there is no exception in implementing the "double-contract responsibility system." For various reasons, when some regions practice the "double-responsibility system," problems appear. For instance, disputes arise over the use of farm cattle and irrigation facilities, land being divided into extremely small pieces, machines not playing their roles, property of the collective not being well protected and the problem that the four kinds of households, which have martyr members, soldier members, overseas members and members in Taiwan, as well as the households enjoying the five guarantees are not well arranged. Attention should be paid to these problems. But we should see that the above problems are not the problems of the "double-contract responsibility system" itself, but are problems related to work. Exactly for this reason it is extremely necessary to combine ideology and understanding and improve and strengthen leadership in the process of implementing and perfecting the responsibility system in agricultural production.

//The Masses Decide Which Kind of Responsibility System They Will Practice//

There are many forms of the contract responsibility system which links remuneration to output and which is now being practiced in the rural areas. There is the system of setting fixed output quotas for each household, the system of assigning the households full responsibility for task completion, the system of assigning responsibilities to each laborer and linking remuneration to output, the system of assigning responsibilities to each group and linking remuneration to output and the system of specialized contracts. Sometimes several forms are practiced at the same time or they overlap each other. This is quite normal. But there are people who say that the system of assigning the household full responsibility for task completion is an "elementary" responsibility system and they suggested that the "double-contract responsibility system" be guided by the system of "setting a fixed output quota for each laborer."

I think that whichever responsibility system we choose, we should not proceed from such abstract terms as "high-level" or "elementary," but we should see whether the form suits local conditions and the experience of the masses. As long as the form suits local conditions, promotes production development and is welcomed by the majority of the people, then this responsibility system is suitable as far as the place is concerned. On the contrary, if there is a responsibility system which many people hold is of an extremely "high level," but is not suitable for the place, harmful to production development and not accepted by the majority of people, then such a responsibility system should not be adopted. Just as people said in the rural areas in Henan: "Whether a form is good, the stomach indicates it, whether a form is elementary or of a high level, the judgment is based on the increase in production."

Then on what do we base deciding what form of responsibility system should be adopted? To sum it up, there are two points: First, proceed from reality, suit measures to local conditions and adopt whichever responsibility system we find suitable; second, let the masses of peasants have the right to choose and decide. In the process of investigation, we deeply felt that the adaptability of various forms of the responsibility system had the nature of an objective law which did not change according to people's will. There is process in which the adaptability of the responsibility system is verified by practice and observed, contrasted and selected by the masses. Leaders at all levels should avoid by all means subjectively and one-sidedly pursuing certain forms and should sincerely give the masses the right to choose. China is a country with a vast territory, and because natural conditions and economic based are not the same in all places, it is unrealistic to seek uniformity. Unhealthy results will be produced if we cut ourselves off from the masses and reality and blindly pursue the so-called "high-level" forms.

It is necessary to point out that if we take the responsibility system of assigning the households full responsibility for task completion as the most elementary form, we will come to the necessary conclusion that: The "double-contract responsibility system" is only an "expedient measure." We should admit that: At the present stage, the "double-contract responsibility system," particularly the system of assigning the households full responsibility for task completion, is a better responsibility system under the Chinese way of socialist agricultural management. Because compared with other responsibility systems, "the benefits are most direct, responsibilities most concrete and method most simple." This form suits the economic and natural conditions of most places in our country; in a certain sense, this form is an important measure of business management which our country has discovered through repeated practice and by paying a price on its way to collective agriculture. On the one hand, it has promoted the superiority of the collective economy, and on the other hand, it has fully aroused the enthusiasm of the masses of peasants and has solved a fundamental problem in collective business management that has not been solved for a long time.

//It Is Necessary to Stabilize and Perfect But Do Not Help the Shoots Grow by Pulling Them Up//

We should be positive that the "double-contract responsibility system" has a broad mass base and that it has strong vitality. But faced with the present situation of the "double-contract" responsibility system, it is necessary to make a concrete analysis. Judging from the actual situation in many places, since the "double-contract" responsibility system is practiced for a very short time and people have no experience, there are many practical problems which must be solved as soon as possible. For instance, the problems of how to unify planting plans, how to fully promote the roles played by the existing irrigation conditions and the grand-sized agricultural machines, how to make arrangements for the livelihood of the "households enjoying the five guarantees" and do subsidy work for the families of martyrs and soldiers, how to make arrangements for surplus manpower, how commercial undertakings can adapt to the rural areas and so on. Thus, to solve the problems which will surface after the "double-contract" responsibility system is put into practice and to continuously consolidate and perfect the system through practice is a central link of rural work at the present stage. The view that after the "double-contract responsibility system" is put into practice the peasants will have had initiative in production, that the peasants' enthusiasm will have been aroused and that it will no longer be necessary to strengthen leadership are extremely erroneous and harmful views.

Attention should be directed to the fact that there are people who think that under the "double-contract" responsibility system, the household is taken as a unit in its management, that it is an "all-round but small" form and that it is not advantageous to large-scale socialist production. They suggest we should strike while the iron is hot and put "specialized integration" into practice as soon as possible. How should we look at the so-called "all-round but small" system which takes the household as its unit? I think that first, we should see that it is suitable for a majority of the existing economic conditions and the level of business management in China at the present stage. Planting is the principal feature of agricultural production. The system with the household as its unit of management suits the characteristics of agricultural production and meets the demands of the masses of peasants. It should be clarified that the size of the production organization and the number of people who work together do not indicate the level of advance of production relations and the level of labor efficiency. In China, the size of the population is large while there is limited cultivated land, and it is necessary to practice a high degree of intensive management in agricultural production and do something in intensive cultivation. Of course, with development in production, the "double-contract" responsibility system may take the road of "specialized integration." But judging from the majority of production brigades which practice the "double-contract" responsibility system, we do not have the conditions necessary for "specialization" and "integration." A healthy and perfect stabilizing stage is necessary. Since the movement to organize cooperatives, there have been many policy changes, and the masses of peasants doubt the party's policies. At present, in places where the "double-contract" responsibility system is practiced, the masses are afraid of policy changes. If we do not proceed from the actual situation and put forward the slogan of "specialization" and "integration" when it is still early or in an improper manner, we will harm the stabilization and perfection of the "double-contract" responsibility system. Historical experience has proven that an important economic reform requires a long period of stabilization. We should learn the painful historical lesson and avoid by all means committing the foolish act of helping the shoots grow by pulling them up and avoid being over-anxious for quick results.

CSO: 4007/58

PRC'S WANG WEI EXPLAINS FOOD HYGIENE LAW

OW150351 Beijing XINHUA Domestic Service in Chinese 1411 GMT 12 Nov 82

[Text] Beijing, 12 Nov (XINHUA)--Explaining the draft PRC Food Hygiene Law at the 25th meeting of the 5th NPC Standing Committee held here today, Vice Minister of Health Wang Wei said that the draft law was written at a time when the whole country was implementing the PRC food hygiene control regulations promulgated by the State Council in 1979, as well as other food hygiene laws and regulations, after summing up the experiences and lessons of the past 30 years and more in connection with the supervision and control of food hygiene and also relevant existing problems, and after studying the food hygiene laws and regulations of a number of countries.

He said that drafting the law began in April 1981. Since then, the Ministry of Health has held more than 20 investigation and discussion meetings, and copies of the law have been distributed to the health and other departments concerned in various provinces, autonomous regions and municipalities directly under the central government, as well as to the concerned ministries and commissions of the State Council in order to extensively seek their opinions. More than 1,400 suggestions have been received, and the law has been revised more than 10 times. The general concensus is that promulgation of the Food Hygiene Law is absolutely necessary. The draft law was approved by the State Council at its routine meeting held on 6 November 1982.

Wang Wei said: The Food Hygiene Law has 45 articles in 9 chapters. Its main contents are: More specific regulations for food production, materials and vessels used for transporting food, food additives, materials and tools used for food packing and the management of equipment; explicit provisions requiring all production management departments and the units under their authority to be responsible for their own food hygiene and safety and to establish hygiene control and inspection organs; provisions on the adoption of a state system for supervising food hygiene and on fixing the responsibility of food hygiene supervisory organs and that of the personnel therein; and provisions on fixing the legal liabilities of those who cause harm or damage in violation of this law, aimed at protecting the interests of the people.

Wang Wei said: Since the founding of New China, satisfactory progress has been made in food hygiene work. However, the decade of domestic turmoil seriously disrupted this work. In addition, it has failed to catch up with the different ways of operating production. With the development in industry, agriculture and other fields, more possibilities exist for contamination of foodstuffs. This has caused food hygiene to deteriorate, and some cases have even posed a threat to the people's health and life and have adversely affected the four modernizations.

He said that patriotic health movements, launched since the founding of New China, have played a role in improving food hygiene. After the promulgation of the law, it is still necessary to strengthen the patriotic health movement. He suggested that patriotic health movement committees at all levels should continue to organize the masses for this purpose, to pay attention to propaganda and education on the legal system, morality and knowledge concerning food hygiene, and employ the means of inspection, appraisal, criticism and commendation to inspire the departments and units concerned to conscientiously implement the Food Hygiene Law.

CSO: 4007/58

RURAL AGRICULTURAL RESPONSIBILITY SYSTEM PRAISED

HK161230 Beijing GUANGMING RIBAO in Chinese 7 Nov 82 p 1

[Commentator's article: "The Agriculture Production Responsibility System is Created by Peasants"]

[Text] From today on this newspaper will publish a series of reports on how the production responsibility system known as "big contracting" is carried out in Chuxian Prefecture of Anhui Province. The great changes over the past 4 years since the "big contracting," or the production responsibility system of contracting production quotas to peasant households, was put into effect have convincingly proved that the production responsibility system has strong vitality and the development of agricultural production is still in the ascendant.

Do the production responsibility systems of various forms drop from the skies? No. Are they innate in people's minds? Again, no. It is the masses of peasants who created these systems in practice. For a long time in the past, affairs in China's rural areas were always tackled with the methods conceived and enforced by the authorities from one level to another. Peasants had no say in these affairs but could only act according to the directives issued by the authorities. The peasants' enthusiasm was thus greatly sapped. This was an important reason why China's agricultural production grew slowly. In the wake of the 3d plenary session of the 11th CPC Central Committee, the peasants emancipated their minds and took the lead in front of the people of the whole country. They eagerly demanded a change in the previous form of organizing production which was characterized by the rigid concentration of management, labor and distribution. They called for blazing a new trail which is suited to the characteristics of agricultural production and the reality of China's rural areas by shaking off the shackles of "leftist" ideology, old conventions and the previous rigid patterns under the guidance of the line set by the 3d plenary session of the 11th CPC Central Committee. It is under these circumstances that the various production responsibility systems of contracting production quotas to peasant households arose. As a result of this practice, this creation by the peasants has brimmed in the rural areas with vigor and vitality. Production has developed and peasants' mental attitude has also been greatly changed. Lenin said: Living creative socialism is the product of the masses themselves. This truth of historical materialism has now once again been proved in China's countryside.

Having been educated by the communist party for a long time, the Chinese peasants are new peasants [words unclear] to take the road of socialist cooperative economy. Through the comparison between the new and the old societies and from their personal experiences, they have clearly realized that the road of socialist cooperative economy is a broad road which can lead them to opulence. But how should they advance along this road? The practice followed since the 3d plenary session of the 11th CPC Central Committee has shown: 1) We should let peasants take this road by themselves. No person can do this on their behalf by enforcing administrative or other mandatory measures; and 2) we should let peasants gain real economic benefits in a way suited to local and current economic conditions. Matters which are economically impracticable are always refused by the peasants. The violation of the peasants' interests is to divorce the peasants from reality.

Does this mean that the party's leadership can be abandoned? No. It is obligatory on the party to show respect for the creative initiative of the masses when it is wielding its leadership. The party should seriously sum up the experience of the masses and popularize it. The fact that the production responsibility system can play a great role, from its emergence to universal introduction in the vast rural areas, has shown the importance of the party's leadership. Our party's traditional work method of "from the masses to the masses" is precisely reflected in being good at summing up the experiences gained by the masses and seriously popularizing them. It is a pity that for a fairly long time in the past this traditional method and style of work were cast aside due to the influence of "leftist" ideology. In the wake of the 3d plenary session of the 11th CPC Central Committee, party organizations and rural cadres at all levels restored and carried forward the party's good tradition of seeking truth from facts and practicing the mass line. They timely perfected and popularized the production responsibility system created by the peasants. Only thus can such a good situation emerge in the rural areas today.

In order to lead and educate the peasants, it is necessary to first learn from the peasants. Today's peasants are no longer the same as the peasants in the past. Now they have broader vision. They have become laborers in a socialist cooperative economy and are greatly different from the individual peasants in the former era of a natural economy. They have a vast reservoir of creative power. They can certainly break through the fetters of "leftist" ideology and open up a socialist road with Chinese characteristics in China's rural areas. Get yourself moving and go among the peasants, you will sweep all doubts and misgivings from your mind. The great prospect of China's agriculture developing with huge momentum will present itself before your eyes.

CSO: 4007/58

BRIEFS

FALL-WINTER PLANTING STEPPED UP--China has completed fall and winter planting on a scale larger than that of last year. China has basically completed its central task of planting fall and winter wheat, seeding an area 18 million mu larger than that of last year. [Beijing GUANGMING RIBAO in Chinese 7 Nov 82 p 1]

CSO: 4007/58

ABANDONMENT OF CONTINUOUS RICE, WHEAT CROPPING URGED TO INCREASE YIELDS

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 9, 20 Sep 82 pp 17-18

[Article by Xu Huandou [1776 3562 2435], Fengtai County Farming and Forestry Bureau, Anhui Province: "Ways to Solve the Longstanding Fluctuation in Yields from Continuous Rice and Wheat Cropping"]

[Text] Fengtai County is located at 32° 43' north latitude, which analysis of light, temperature, water, and soil ecology shows to be suitable for paddy rice and wheat production. Since 1970, as farmland water conservancy conditions have improved, the irrigated area increased, new superior varieties produced steadily, and chemical fertilizer increased year by year, the country CPC committee has proceeded from realities to propose a production program of "directing the main attack on wheat while expanding paddy rice," which has brought about very great growth of grain production. In 1981, as a result of diligent implementation of the spirit of the Third Plenary Session of the 11th Party Central Committee and institution of different forms of responsibility systems linked to output, wheat and rice output increased. Statistics show that yields from 553,000 mu of wheat were 307 jin per mu, and from 249,000 mu of paddy rice, 743 jin per mu. Furthermore there were some production brigades that produced 500 jin per mu of wheat and 1,000 jin per mu of rice. Nevertheless, we discovered that in some places that have long practiced continuous cropping of rice and wheat, output has fluctuated without moving ahead; costs have become increasingly high; and some problems urgently await solution without which further increases in grain output will be impaired.

Major Problems

(1) High yields for the first several years with yields per mu fluctuating after 6 years of continuous cropping. (Table 1)

Table 1. Rice and Wheat Output Statistics for Xuqiao Production Brigade, Madian Commune

表1 马店公社徐桥大队稻麦产量统计

作物种类 (b) / 年度 (a)	小 (c) 麦		水 (d) 稻	
	面积 (e)(亩)	单产 (f)(斤)	面积 (e)(亩)	单产 (f)(斤)
1970—1973	3,500	200—250	240	1,000—1,100
1974	3,560	250	485	850
1975	3,670	310	1,250	839
1976	3,760	350	1,400	600
1977	3,155	180	2,050	782
1978	3,670	320	1,830	770
1979	3,908	368	2,600	870
1980	3,750	310	3,500	551

(a) Year
(b) Crop
(c) Wheat
(d) Paddy Rice
(e) Area (Mu)
(f) Yield Per Mu (Jin)

A look at Table 1 shows that for the first several years after improvements in water facilities had been made, rice yields stabilized at a general somewhat more than 800 jin per mu and wheat yields per mu also tended to rise. After 1976, however, not only were rice and wheat yields no longer consistent, but increasing yields also became difficult. Surveys show that right after ricefields were improved, only 50-60 jinof ammonium bicarbonate was required per mu for a harvest of 800 jin of paddy, and pesticide and fertilizer costs per mu amounted to 10-odd yuan. With the passage of time, however, quantities of ammonium bicarbonate and superphosphate fertilizer increased year by year, about 80 to 90 jin per mu of ammonium bicarbonate and 80 jin of calcium superphosphate per mu being applied. To maintain the 800 jin per mu yields, the ammonium bicarbonate requirement is now between 150-200 jin per mu, and even so it is difficult to get 800 jin per mu of paddy, while both pesticide and fertilizer costs have increased tremendously.

(2) Gradual increase in soil alkalinity, decrease in potash content, and serious imbalance in proportions of nitrogen, phosphate, and potash. A survey done at 73 places in 1980 showed only 16 having a pH of 6.5-7.0, 16 having a pH of 7.0-7.5, 10 having a pH of 7.5-8.0, 19 having a pH of 8.0-8.5, and 12 having a pH higher than 8.5. Obviously the pH of some ricefields was greater than the 6.5-7.0 value deemed suitable. Even though the organic content of rice paddy soil was high, the proportions of quick acting nitrogen, phosphate, and potash were seriously unbalanced, a mutually restrictive situation taking place (Table 2). Everywhere paddy fields were potash deficient.

Table 2. Fertility of Clay and Sandy Paddy Soils

Survey Site	Organic Value (%)	Effective Nitrogen (ppm)	Quick Acting Phosphate (ppm)	Quick Acting Potash (ppm)
Shankou Tenth Brigade. Sandy Soil	0.60	5.9	3.4	98.0
County Agricultural Institute Paddy Clay	1.75	6.8	7.8	70.3

(3) Irrational crop patterns for paddy and wheat varieties with prominent seasonal conflicts. As a result of the high yields of hybrid rice in the current season in recent years, some peasant households are concerned only with the present season and unconcerned about the following season. More than 80 percent grow hybrid rice, so this means difficulties for directing the main attack on wheat. Wangyu Production Brigade in Baikuang Commune grows 1,200 mu of paddy rice including 1,140 mu of Shanyou No 3 and 661 for which the growing season is long. This delays the sowing of wehat. On 20 November the Production Brigade started to plant 200 mu of wheat, 700 mu less than in former years.

(4) Growing of a few superior rice and wheat varieties, which provide little potential for increased yields. Survey has found that in most places the paddy rices of choice are Nanjing No 11 and Zhenzhuai. For wheat they are 7023, Fengtai No 3, and Taishan No 1. These have been planted for a long time, and their yields per unit of area are not high. Ever since 1974 the county stock varieties rice farm has stuck to the production of Nanjing No 11 rice and 7023 wheat. Wheat yields are slightly more than 400 jin per mu, and rice yields are about 700 jin per mu. Though many measures have been taken, as a result of the long use of these two varieties it has been very difficult to increase yields per unit of area.

In addition, many years of continuous cropping of rice and wheat have made the soil's cultivated layer become shallow, the soil become sticky, the time when plowing can be done short, and caused deterioration in the soil's physical structure, problems urgently requiring solution.

Means of Solution

(1) Focusing on the overall situation in rational planning of the succession of crops. Rational planning of the succession of crops would not only assure yield increases for any given season, but would also mean increased yields season after season, and would be extremely beneficial in reviving and increasing soil fertility. Places that have continuously cropped rice and wheat for 4 long time could, while increasing yields per unit of area and without any decrease in total output, expand the growing of soybeans, peanuts and such pulse crops as well as rape, green manure, and cotton. Rotational cropping of the soil as wetland, and drylands would be remarkably beneficial in improving the soil's physical structure, in reducing the incidence of diseases, insect pests, and weeds, and increasing crop outputs. Ther should be planned step-by-step crop rotation.

(2) Rational choice and matching of superior varieties and following along in the growing of a certain superior variety for a long period of time does help one figure out the characteristics of varieties so as to be able to take corresponding action to increase yields per unit of area; however, because of the amounts of single nutrients drawn from the soil, the soil becomes deficient in its principal elements and reduced yields result. Under these circumstances, a change of superior varieties can bring immediate increases in yields. For example, some of the production brigades in Xialiang Commune grew Nanjing No 11 for a long time obtaining yields of from 700 to 800 jin per mu. In 1981, the brigade promoted hybrid rice for yields averaging about 1,000 jin per mu, which was from 200 to 300 jin per mu greater than for Nanjing No 11. Therefore, places having the water, fertilizer, manpower, and draft animals might start with an expansion of hybrid rice to increase their rice yields, and go on to cut back appropriately on the area sown to late wheat, increasing the area planted to rape for bumper harvests of both grain and oil.

Different areas with different levels of production and different peasant households may also use a different direction of attack on the problems of rice and wheat production; they should not practice arbitrary uniformity. In the attack on wheat, for example, they should select either a winter or semiwinter variety for more than half their crop, planting the remainder to spring varieties. Hybrid rices requiring a long growing season and variety 661 can be planted on 20 to 30 percent of the area, with rice varieties having a short growing season, such as Nanjing No 11, being grow on 70 to 80 percent of the area so that it can be harvested early and the fields cleared for the succeeding crop of wheat. Conversely, if mostly rice is to be planted, it should be hybrid rice or variety 661 planted on 60 to 70 percent of the area in order to get high rice yields. However, no matter whether the main attack is directed against rice or wheat, there should be no standardization of either the wheat or rice superior varieties grown. Fascination with anything can bring great losses.

(3) Promotion of return of stalks and stems to the fields to nurture soil fertility. In places where conditions permit, return to the fields of stalks and stems, or cutting the rice and wheat higher to allow more straw to remain in the fields should be vigorously promoted, so that they can be plowed under to fertilize the fields. This can both increase the soil's organic content and regulate the ratio of carbon to nitrogen in the soil, and can improve the soil's physical structure so that the soil can be plowed for a long period of time. By leaving in the fields 200 jin per mu of rice and wheat straw, the soil's organic content can be maintained with no dramtic decline.

(4) Change in farming methods, and striving to plant on time. On-time sowing is a prerequisite for sturdy seedlings that develop early. In order to solve the conflict between seasons resulting from the continuous cropping of rice and wheat, some changes in farming methods should be taken in hand. Even while the wheat is being harvested, plowing should begin, the soil turned to a good depth and sunned. Then the fields should be manured, water returned to them, and rice planted. After the rice crop has been harvested, if time is extremely short, sowing may be done after shallow plowing, rotary tilling, and fine raking. Experiments at many places during 1980 have shown that when wheat is sown after rotary tilling of fields from which rice has been harvested, not only do the numbers of basic seedlings increase and seedlings grow evenly in height, but ripening occurs 1 to 2 days early, spikes are large and grains numerous, and yields increase by about 10 percent. In addition, obtaining consistently high rice and wheat yields requires solution to technical problems of sparse sowing for sturdy seedlings, correct understanding of the insect pest situation, prompt prevention and control of crop diseases and insect pests, scientific use of water, sensible fertilization, and cultivation to get rid of weeds.

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CSO: 4007/12

BRIEFS

WHEAT SOWING--By 26 October Anhui Province had completed more than 70 percent of its wheat sowing task. The acreage sown was 5 million mu more than in the same period last year. Before cold dew [the 17th solar term], Suxian Prefecture had sown wheat on 1 million mu. By frost's descent [the 18th solar term], it had basically completed its autumn sowing tasks. Chuxian Prefecture has sown 480,000 mu more wheat than last year. [OW301417 Hefei Anhui Provincial Service in Mandarin 1100 GMT 27 Oct 82 OW]

FLOOD VICTIMS--According to an ANHUI RIBAO report, the Anhui Provincial Government and other provincial authorities concerned organized 24 cadres into 8 groups and separately sent them, on 3 November, to Huaibei Municipality, Yingshang, Funan, Linquan, Xiao, Shou, Huaiyuan, Fengtai, Quanjiao and Huoqiu counties, which were seriously hit by floods and waterlogging, to solve pressing food and housing problems for victims there. Every cadre in the inspection groups was required to carry out his job earnestly and to accomplish the task by 22 November so that victims could spend the winter safely. [OW090205 Hefei Anhui Provincial Service in Mandarin 1100 GMT 5 Nov 82 OW]

CSO: 4007/58

BRIEFS

MARINE FISH-FARMING--Fuzhou, 25 Oct (XINHUA)--Output from marine fish-farming in Fujian Province during the first 9 months of this year exceeded 2,356,000 dan, topping last year's total annual output. Some 50,000 mu of laver and over 100,000 mu of oyster and clams remain to be collected. This year, the province has 380,000 mu of marine fish-farming areas, 10 percent larger than last year's. The province's output of laver and shellfish respectively accounts for 80 and more than 50 percent of the nation's total output. [Beijing XINHUA Domestic Service in Chinese 25 Oct 82 OW]

SEA FISH FARMING--Fujian Province's rapid development in marine fish farming since the 3d plenary session of the 11th CPC Central Committee has received favorable comment from representatives of fraternal provinces and municipalities and leaders of the Ministry of Agriculture, Animal Husbandry and Forestry attending the National Sea Fish Farming Work Conference now in session in Fuzhou. As of 1981 the province had 420,000 mu of marine fish farming areas, up from 320,000 mu in 1978, an average increase of 7.7 percent a year. From January to September this year, the catch exceeded the total catch of 1981. Per capita income in the fishing areas in 1981 was 230 yuan, doubling the 1978 figure. [OW031315 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 28 Oct 82 OW]

CSO: 4007/58

GANSU

BRIEFS

GRAIN PRODUCTION FORUM--Yesterday the Gansu Provincial Government held a forum in Zhangye on the development of grain production in the Hexi area. This forum discussed and formulated measures to speed up the building of a commodity grain base in the Hexi area. The Hexi corridor in the province is a newly-developed commodity grain base. Since the founding of the country, some 3 million peasants in the Hexi area have persisted in building water conservation projects, leveling fields, improving soil, planting trees and popularizing and applying advanced agricultural technology and measures so that the natural outlook, fundamental conditions for agricultural production and social economic situation have greatly changed. At present, the Hexi area has built 146 medium-sized and small reservoirs, sunk some 24,000 motor-pumped wells and electrically-operated wells, repaired and built channels, some which are 12,000 km long, and expanded irrigated fields by some 3.7 million mu. In the Hexi area, total output of grain in 1980 was some 2.68 billion jin more than in 1979 and the average per mu yield increased from 148 jin to 456 jin. Since 1975, the amount of grain supplied by the Hexi area to the state per year accounted for more than half of the amount of grain supplied by the whole province to the state. The Hexi area has reaped a bumper grain harvest again this year and its total output is 20 percent more than last year. The Hexi area has supplied more than 900 million jin of commodity grain to the state. [HK271418 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 21 Oct 82 HK]

HEXI AREA FORUM--The Gansu Provincial Government held a forum in Zhangye on the development of grain production in the Hexi area. The forum discussed and formulated the target of struggle for building the Hexi commodity grain base. In accordance with the target of struggle, the average yearly output of grain in 3 years is 3 billion jin and total output of grain by the year of 2000 amounts to 6.1 billion jin; total agricultural output value will increase from 900 million yuan to 3.6 billion yuan; the amount of commodity grain supplied to the state will increase from 890 million jin to 2.5 billion jin; the average per capita income will increase to 600 yuan. To achieve this target of struggle, the forum decided to take the following measures: 1) it is necessary to persist in the socialist orientation, continue to emancipate the mind, seriously perfect the rural production responsibility system and arouse the enthusiasm of the collectives and individual commune members; 2) it is essential to persistently do well in farmland and water conservation construction, further improve fundamental agricultural conditions and strengthen irrigation management; and 3) it is imperative to vigorously popularize advanced agriclutural science and technology and transform the farming system. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 26 Oct 82 HK]

CSO: 4007/58

BRIEFS

HAINAN SUGARCANE PRODUCTION CONFERENCE--The Hainan Regional Administrative Commissioner's Office recently held a conference on sugarcane production in Haikou. A total of 140 people attended the conference including all county CPC committees' deputy secretaries and county vice magistrates in charge of industry and communications, chairmen of all county economic committees and responsible persons of all sugar refineries. The conference noted: Due to the implementation of the policy on purchasing sugarcane since last year, our region's peasants' enthusiasm for promoting sugarcane production has been mobilized. Sugarcane production this year and next year will be higher than ever. This will lay a good foundation for opening up new prospects for our region's sugar industry. [Haikou Hainan Island Service in Mandarin 0330 GMT 27 Oct 82 HK]

CSO: 4007/58

SUCCESS OF FERTILIZER EXPERIMENTS REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 18 Sep 82 p 1

[Text] Most recently this reporter learned from related departments of the province that the experimental application of nitrogen-phosphate compound for wheat in the Heilonggang Prefecture of the province produced obvious results. Under this year's persistent drought condition, the 450,000 mu of wheatfields in the experimental area produced a general yield increase. The average unit yield reached 251 jin/mu, 81.85 jin/mu higher than the control (no phosphate application). The yield increase was 65.3 percent.

Aiming at the problem of low and unstable wheat yield of Heilonggang Prefecture, in the autumn of last year, the centers of agricultural science and their technicians of the five areas of Longfang, Handan, Xingtain, Hengshu, and Cangzhou established the Heilonggang Prefecture Wheat Development Research Cooperative Group for joint development of a research project with the use of nitrogen-phosphate compound as the base fertilizer with wheat as the major experimental crop. This was combined with the practice of trench seeding, increasing phosphorus and reducing water, promoting the weight of the grain, using inorganic to promote organic, breeding superior varieties, and high yield cultivation on thin land to form six experimental items of demonstration. The experimental fields, a total of 450,000 mu, were placed in the 9 counties of Dacheng, Wenan, Pingxiang, Julu, Nangong, Hengshui, Zaoqiang, Qingxian, and Hejian. Through survey and study, the scientists and technicians arranged a proper ratio of nitrogen and phorphorus according to the condition of phosphorus deficiency of each plot within these experimental areas and applied the compound as the base fertilizer for the wheat crop. Results of the experiment indicate that due to high nitrogen and phosphorus deficiency, especially phosphorus deficiency of the soils of the prefecture, when the nitrogen-phosphate compound is used as the base fertilizer, the fertility of the topsoil is improved, its ratio of nitrogen and phosphorus is properly adjusted, and strong seedlings may be obtained in the seedling process. Furthermore, the nitrogen and phosphorus contents of the soil may thus promote and supplement one another to raise the benefit. Phosphorus, in particular, acts to promote the early development of the wheat root system to cause the roots to be numerous and to stretch deep into the soil so that the wheat plants develop early and the prewinter seedling become strong. The drough-resistance, cold-resistance, saline and alkaline resistance, and dry and hot wind resistance of the wheat become better also. According to the experiment, compared with nitrogen alone, the nitrogen-phosphate complex adds 1.9 secondary roots to each wheat seedling before the winter and the dry weight of the root system is four times heavier to cause the total quantity of roots to be five to six times more [sic]. During the entire growth and development period, the wheat fields were irrigated only once. In the fields applied with the compound, the roots reached down to 130 cm in depth; in the fields applied with nitrogen only, the roots only reached down to 52.5 cm. Due to the flourishing development of the wheat root system, especially the radicles, the roots can absorb the moisture of the deep layers in the soil to supply the needs of the wheat plants to reinforce the plants ability to resist calamities.

Through the experimental demonstration, the scientists and technicians believe that the fast acting phosphorus content of the soil is the key to the effectiveness of phosphorus fertilizer application. According to the experiment carried out by the Hengshui area Agricultural Science Center, when the soil contains 9 ppm of fast acting phosphorus, for the application of each jin of phosphate fertilizer, the yield increase of wheat is 2.36 jin. On the basis of this data, when the fast phosphorus content is below 5-10 ppm, 80-100 jin of standard phosphate fertilizer may be applied. When the soil fast phosphorus content is 5-10 ppm, 40-60 jin of standard phosphate fertilizer may be applied. For a higher level of yield, the quantity of application may be suitably increased further. The method of application is found to be better as a base fertilizer than as a follow-up application, as a concentrated application better than as a scattered application. An application in a 3-4 cun depth of the soil is proper.

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CSO: 4007/24

BRIEFS

THERMAL WATER RESOURCES--Scientists of the Research Institute of Hydrogeology and Engineering Geology of the Ministry of Geology and Minerals have carried out, from August 1979 to recently, a special subject survey and research project on the formation, distribution, and use condition of ground thermal water in Hebei Plain. The large quantity of data they have thus mastered proved that the ground thermal water resources in Hebei Plain are very rich and much can be done to develop this new source of energy. The hot water wells in Hebei Plain are distributed mainly in Xiong County, Gaoyang, Wuji, Ningjin, Xinhe, and Renqiu. Judging from the bore information the area with surface outpouring of ground thermal water may reach above 4,500 km^2. There are 150 plus wells, each producing above 100 m^3 of hot water a day. The temperature of the automatic flow water is generally above 60° C, with the highest reaching 110°C. This type of hot water is distributed at a regularity of 1,000-2,000 m in depth under the ground. Its pH is high, mostly alkaline. If it is used in cotton and wool textiles and in knitting and dyeing processes, the quality of the products may be improved. In agriculture, it may be used to build greenhouses to cultivate seedlings, vegetables, etc. This type of hot water also has good therapeutic effect on psoriasis, eczema, and arthritis. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 18 Sep 82 p 1] 6248

CSO: 4007/24

CIRCULAR ISSUED ON STOPPING RECKLESS TREE CUTTING

SK071022 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 6 Nov 82

[Excerpts] On 3 November, the Heilongjiang Provincial CPC Committee and Government issued an emergency circular to urge party committees and governments at all levels and departments concerned to conscientiously relay and implement the emergency directive of the CPC Central Committee and the State Council on forbidding reckless lumbering.

The circular urges a general inspection of forestry policy and blows against those who illegally damage forests so as to effectively halt the evil trend toward recklessly felling trees. The circular urges:

1) The party committees and people's governments at all levels and departments concerned should conscientiously relay the emergency directive of the CPC Central Committee and the State Council among the masses in order to make it known to every household and to every person.

2) We must resolutely combat the phenomenon forest destruction. The propaganda departments at all levels should closely work in cooperation with leading party and government organizations to publicize the guidelines of the emergency directive of the CPC Central Committee and the State Council. Efforts should be made to whip up public opinion so as to consciously form a fine general mood of society among the people of the province to take good care of forests.

3) We must conscientiously implement the directive of the CPC Central Committee and the State Council that CPC committees and people's governments of counties with forests should be in charge of implementing the decrees for protecting forests.

4) All localities should conscientiously organize forces of forestry, local procuratorial, public security, procuratorial and court organizations to conduct a general inspection of forestry policy throughout the province.

5) Only the forests that are designated under the state or provincial plans may be opened up. Denuding of forests not covered by any plans must be resolutely forbidden.

6) We should firmly and successfully attend to forestry, stabilize mountain and forest rights and delimit private mountainous areas in order to develop the production responsibility system in forestry.

CSO: 4007/58

BRIEFS

NATURAL RESOURCES--More than 80 scholars, specialists, scientists and technicians in the fields of garden, forestry and agriculture were invited to a symposium 29 October in Yichun Municipality, Heilongjiang Province, to discuss the issue on rationally exploiting the natural resources of the greater and lesser Xing'an mountains. The symposium participants pointed out that some 16.7 million cubic meters of timber have been grown annually in the forest areas of these mountains, but some 25 million cubic meters of timber have been felled annually. At present, the province's comprehensive timber utilization rate is 23 percent. The growth rate of trees in these mountains is only 1.08 percent. If we increase the tree growth rate to 2 percent, the contradiction between tree planting and felling will be alleviated. Wang Jinling, deputy provincial governor, attended the symposium. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 31 Oct 82 SK]

CSO: 4007/58

BRIEFS

WHEAT SOWING--By 23 October, Henan Province had cultivated wheat on some 58 million mu, which was 15 million mu more than in the corresponding period last year. The province had fulfilled 90 percent of its wheat cultivation quota. The province has collected 250 million cubic meters of clay fertilizer and miscellaneous manure for wheat cultivation this year. There is an average of 4 cubic meters of clay fertilizer and miscellaneous manure for each mu. The meaees have bought 1.64 million tons of nitrogenous fertilizer, which are 380,000 tons more than last year. They have bought 1.57 million tons of phosphatic fertilizer, which are 610,000 tons more than last year. On average, about 50 jin of nitrogenous fertilizer and phosphatic fertilizer has been applied on each mu of wheat. All places in the province have bought some 700 million jin of superior wheat seeds and trained 1.68 million wheat technicians, 200 percent more than last year. [HK011518 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 26 Oct 82 HK]

CSO: 4007/58

BRIEFS

HOG RAISING--By the end of August this year, Jiangsu Province had 1.3 million more hogs in stock than at the beginning of this year. The number of hogs raised by commune members account for 70 percent of the total number of marketable hogs. During the first 3 quarters of this year, the state procured more than 11.96 million hogs, topping the same period last year by 1.52 million head. During the period 909.3 million jin of pork was sold in the province, an increase of 8.58 percent over the same period last year. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 2 Nov 82 OW]

CSO: 4007/58

BRIEFS

TEA OIL PRODUCTION--Jiangxi Province has scored encouraging results in tea oil production since the 3d plenary session of the 11th CPC Central Committee. The 1979 output exceeded 76 million jin, topping 1978 by 60 percent and setting an all-time high record. The 1981 output topped 1980 by 61.4 percent. From 1977 to 1981 the province produced more than 300 million jin of tea oil and delivered more than 80 million jin of marketable oil to the state. The province now has some 180,000 mu of tea oil trees. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 30 Oct 82 OW]

CSO: 4007/58

JILIN

BRIEFS

GRAIN PROCUREMENT--By 27 October, Jilin Province had put in storage 482.43 million jin of grain, a 580 percent increase over the figure for the same period of 1981. Of the grain stored, 161.27 million jin was soybeans and 164.89 million jin was paddy rice. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 31 Oct 82 SK]

OIL-BEARING CROP PROCUREMENT--As of 3 November, Jilin Province had procured 384.07 million jin of oil-bearing crops, overfulfilling the 1982 oil-bearing crop procurement plan by 1.1 percent. Siping and Baicheng prefectures overfulfilled their procurement plans by 13.6 percent and 6.3 percent respectively. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 5 Nov 82 SK]

CSO: 4007/58

BRIEFS

CATTLE EXPORT--The export volume of marketable cattle of Ju Ud League, Nei Monggol has been increasing year after year. Since 1978, the league has exported 26,100 head of marketable cattle to Hong Kong and Macao, earning 7.5 million yuan of foreign exchanges for the state. After the implementation of the party's economic policies for rural pastoral areas, the relevant departments of the league allocated special funds amounting to 390,000 yuan for the development of cattle raising. According to statistics, in 1981 the league exported 8,700 head of marketable cattle and in the January-July period of 1982, 6,600 head. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Sep 82 SK]

SHEEP'S WOOL--Nei Monggol region reaped a bumper sheep's wool harvest in 1982, overfulfilling the annual state procurement target 4 months ahead of schedule. By the end of August, the region procured over 86 million jin of sheep's wool, an increase of 6.9 million jin over the 1981 figure, topping an all-time peak. During the January-August period, the fine hair sold to Beijing, Tianjin and Shanghai municipalities reached 23 million jin, up 5.8 million jin as compared with 1981. [SK180033 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Sep 82 SK]

BEET OUTPUT--Nei Monggol region sowed over 1 million mu of beets this year. It is estimated that total beet output will surpass 1 million jin, up 20 percent over the previous record. Bayannur and Ju Ud leagues sowed 570,000 mu of beets this year. In addition, 87 percent of beet seedlings are kept in full stand and sugar content will be higher than that in 1981. [SK192314 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 Sep 82 SK]

BEET HARVEST--This year Bayannur League in Nei Monggol Autonomous Region reaped a bumper sugar beet harvest. According to statistics, the league's total sugar beet output this year is expected to reach 1 billion jin. The average per-mu yield showed an increase of 20 percent over 1981. [SK300243 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Oct 82 SK]

CSO: 4007/58

AUTONOMOUS REGION INCREASE IN SUMMER GRAIN REPORTED

Yinchuan NINGXIA RIBAO in Chinese 18 Sep 82 p 1

[Text] This year the total summer grain production of the region reached 12.5 billion jin, an increase of 12.5 percent over last year's bountiful harvest. The wheat yield of areas irrigated by the water of Huanghe was a great deal higher, with a total production of 1.08 billion jin, an increase of 20.9 percent over that of last year. Due to a particularly severe natural calamity, the summer grain production of the mountainous areas was 17.7 percent less than the year before.

This year, the rural villages and the state-operated farms of the autonomous region implemented the post-Third Party Congress line, policy, and goal still further. The system of production responsibility was increasingly completed and perfected. Productive enthusiasm of farmers and state-operated farm workers was unprecedentedly high. The party organizations of all ranks took advantage of the situation and provided favorable guidance to help the cadres resolve the relationship between unity [unified leadership or planning] and responsibility [production guarantees.] Productive enthusiasm of the masses was encouraged while the merits of collective economy were also promoted. Meanwhile, the leaders and the agricultural technology departments also adopted various ways, geared to the new condition of the rural villages following the practice of the production responsibility system to carry out the work of extending agricultural sciences and technology. In all the counties of the Huanghe irrigation district, the acreage of superior breed wheat was greater than the year before and such techniques as timely seeding of proper amount of seeds, reasonable fertilizer application, timely irrigation, serious pest and disease control, and intensive field management were accomplished. In addition, the weather was relatively satisfactory to result in the great increase of unit yield. With the 53,000 mu additional summer grain acreage, the output of all the 11 counties (suburbs) was larger than that of the previous year. Of these counties, the yield increase of Yongning, Helan, Taole, Zhongwei, and Qingtongxia and the suburbs of Yinchuan City was more than 20 percent and that of Pingluo County exactly 20 percent. The yield of the suburbs of Shizuishan City and Zhongning County was more than 15 percent. The output increase of all the remaining counties was also more than 10 percent. At present, the cadres, commune members, and employees of the state-operated farms of the Huanghe irrigation district of the autonomous region are delighted with the great harvest of summer grains and are struggling for obtaining bountiful harvests all through the year. In the mountainous areas, the work of fighting natural disasters is proceeding in earnest.

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CSO: 4007/24

CONFERENCE ON WINTER AGRICULTURAL PRODUCTION

HK080920 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 7 Nov 82

[Text] Yesterday evening, the Shaanxi Provincial CPC Committee and the Provincial Government held a telephone conference on winter agricultural production and rat extermination. In his speech, Vice Governor Bai Jinian pointed out: At present, the central work of the rural areas in our province is that we must regard the spirit of the 12th party congress as the impetus and, while perfecting and promoting the agricultural production responsibility system, vigorously do well in grasping farmland capital construction and winter crop field management.

Bai Jinian said: With a view to further improving conditions for agricultural production and ensuring that grain output in the sixth 5-year plan period will exceed 20 billion jin and the average per capita output of grain by the end of this century will amount to 1,000 jin, farmland capital construction at present and in certain years in the future is a central task and we must persist in embarking on it for a long time. He demanded:

1. We must fully mobilize the masses; leaders must personally assume command; and tasks must be done and responsibility shouldered at all levels to ensure that over 30 percent of the labor force will take part in farmland capital construction.

2. In light of the different situations of various places, we must define the main direction of attack in each place. Sanyuan County must mainly harness small basins in connection with planting trees, growing grass and developing forage grass fields. At the same time, it must do well in developing drinking water projects for both human and livestock consumption. Irrigated areas must stress developing square fields with a network of forests and regard the irrigation conveyance system as the key point. We must step up repairs in areas seriously damaged by floods.

3. To suit changes in the forms of the production responsibility system, we must take such measures as are suitable to local conditions and have flexible and varied organizations and measures. Some places can implement the system of attending to farmwork while others can implement the system of assuming full responsibility for task completion or the system of

contract. Other places can also implement the cooperation system. However, we can by no means pursue equalitarianism or indiscriminately transfer resources.

4. We must resolutely implement the provincial government's circular and order on the strict prohibition of the sabotage of water conservation and water and soil conservation facilities.

Comrade Bai Jinian also demanded: At the same time, all places must step up winter crop field management and rat extermination. Responsible comrades of Liquan and Yanchang counties introduced their experiences in carrying out farmland capital construction. Comrade Yu Mingtao, Provincial CPC Committee secretary and governor, presided over the telephone conference.

CSO: 4007/58

BRIEFS

TANGERINE OUTPUT CONFERENCE--A conference of 12 provinces and municipalities--Gansu, Sichuan, Henan, Jiangxi, Hunan, Hubei, Anhui, Shanghai, Beijing, Zhejiang, Guizhou and Shaanxi--on tangerine production was recently held in Hanzhong, Shaanxi Province. Approximately 100 workers attended who are engaged in scientific research on and production of tangerines. They held that if we can select drought-resistant and superior quality tangerine varieties and pay attention to raising the level of scientific management, we can increase our output of tangerines. [Xian Shaanxi Provincial Service in Mandarin 0500 GMT 22 Oct 82 HK]

MEANS OF PRODUCTION--From January to September this year, the amount of money which peasants in Shaanxi Province spent on means of production amounted to 650 million yuan and was 16.5 percent more than in the corresponding period last year. They bought 1.01 million tons of chemical fertilizers, which was 27.5 percent more than in the same period last year; 722 large tractors, an increase of 50.7 percent; some 9,300 3-wheeled, motorized carts, an increase of 120 percent; and some 18 million medium-sized and small agricultural tools, an increase of some 10 percent. [Xian Shaanxi Provincial Service in Mandarin 0500 GMT 26 Oct 82 HK]

CSO: 4007/58

MASSES REASSURED ON AGRICULTURAL POLICY

SK080704 Jinan Shandong Provincial Service in Mandarin 2300 GMT 7 Nov 82

[Text] In publicizing the 12th congress documents, the Yidu County broadcast station has seized on the subject about which the peasants care most and stressed it as the main point. An investigative report conducted by the station before the 12th congress revealed that the issue about which the broad masses of commune members and grassroots cadres care most is whether the party's policy will change. To help them clarify the point at issue, the county broadcast station repeatedly beamed the portion of Comrade Hu Yaobang's report dealing with persistently implementing the agricultural production responsibility system on a long-term basis and gradually perfecting it. The station also broadcast many programs on supplementary lectures on studying the 12th congress documents and stabilizing and perfecting the production responsibility system. It also broadcast many articles by commune members and cadres on their study and understanding of the 12th congress documents in programs devoted exclusively to the study of the 12th congress documents, giving wide publicity to those examples of achieving prosperity through hard work and to units and individuals distinguished in promoting the spiritual civilization. Peasants in the county are, one after another, buying the means of production. In the past month the peasants have purchased 1,500 draft animals and 1,300 diesel engines, electrical machines and water pumps. Sales of cake fertilizer and chemical fertilizer have also increased markedly.

CSO: 4007/58

DEZHOU PREFECTURE READJUSTS CROP DISTRIBUTION

Beijing BEIJING RIBAO in Chinese 23 Sep 82 p 4

[Text] XINHUA Editors Note: The experience of realizing rapid yield increases of both grain and cotton in Dezhou Prefecture of Shandong Province is a new inspiration for us all. It presents us with a scientific attitude of persistent struggle in a realistic manner, with unshakable faith to march steadily forward. Under the guidance of the 12 great spirits the leaders of the party are guiding the masses of people to stride in vigorous steps up the terrace to reach the height of Taishan. In this manner, our goal of creating the new situation of socialist modernization construction will definitely be accomplished.

The Dezhou Prefecture of Shandong Province made reasonable adjustment in its crop arrangement. Attention was given to the merit of developing cotton production and at the same time, grain production was not neglected. In this manner, yield increases of both grain and cotton were achieved. Compared with 1978, the cotton acreage of the prefecture last year was 2.63 million mu larger to produce a total increase of cotton production of 3 million dan, an increase of more than 7-fold. The grain acreage was decreased 1.41 million mu, while the total grain production remained 390 million jin higher, an increase of 13.1 percent. The total production of summer grain of the prefecture this year was more than 300 million jin above that of the previous year, an increase of 20 plus percent. Cadres and members said happily that "Grasp the gold (grain), push the silver (cotton) up, life is getting more and more delightful."

Dezhou is an old cotton-producing area. After the Third Plenary Session of the 11th Party Congress, the crop arrangement has been readjusted to restore some cottonfields squeezed out by grain crops during previous years. With increased production of cotton, more and more cotton was sold to the state and the incomes of the collectives and the members increased year after year. Under this condition, the trend of contracting the grain acreage began to appear in some areas. The CPC of Dezhou and the executive office cooly analyzed the situation. They believed that Dezhou had a farming population of 5 million and the problem of food just could not be resolved on the basis of state supplies. Grain and cotton production just had to be taken into equal consideration to make a reasonable arrangement and to struggle for yield increases of both. Originally, Dezhou Prefecture planned an expanded cotton acreage of 170,000 mu. After the leadership was strengthened, the cotton production plan was readjusted realistically to 700,000 mu only, to increase 100,000 mu of grain acreage.

Dezhou Prefecture has a great deal of wasteland and alkalized land. In the process of expanding the cotton acreage, as much as possible they developed and used the waste and alkalized lands so as not to take over grainfields. In order to resolve the land competition between grain and cotton, wherever the condition permitted intercropping wheat and cotton was also actively extended in the prefecture. After the grain acreage was reduce, in order to guarantee grain production increase, Dezhou Prefecture adopted the method of using grain to guarantee cotton production and using cotton to promote grain production so as to guarantee yield increased of both grain and cotton. In these few years, cotton production was quickly established to increase the income of cotton farmers. The Dezhou Prefecture Committee and the executive office directed and organized the cotton farmers in a timely manner to transfer the bumper cotton harvest into a large quantity of chemical fertilizer, residue cake fertilizer, and capital to be invested in grain production. As the agricultural production system began to be extended, many communes and brigades of this prefecture adopted the method of separate guarantees for cotton and grain and in some communes and brigades, a tendency of competing for cotton contracts and unwillingness to take on grain contracts appeared for a while. The prefecture extended in a timely manner the method of mixing cotton and grain contracts by individual workers or households, effectively to insure the implementation of the grain production responsibility system. Last year, in the prefecture the per capita grain consumption was 670 jin and the per capita grain production was 446 jin. With the added grain production of the private plots, the per capita grain supply reached more than 500 jin.

After several years of readjustment, the ratio between grain acreage and cotton acreage in Dezhou Prefecture this year was 55:45. The prefecture committee and the executive office believe that the present ratio of grain and cotton has become reasonable and they have asked all areas to stabilize it on this basis. In the future, the traditional yield increase experience of the masses should emphatically be united with modern scientific technologies to strive for increasing the unit yield and to struggle for continuous yield increases of grain and cotton.

6248
CSO: 4007/24

SOIL CONSERVATION WORK CONFERENCE ENDS 4 NOVEMBER

SK050956 Jinan Shandong Provincial Service in Mandarin 2300 GMT 4 Nov 82

[Text] The Provincial Water and Soil Conservation Work Conference concluded on 4 November. It pointed out that our province's water and soil conservation work is very arduous. Efforts must be made to control soil erosion as soon as possible and to do a good job on construction in mountainous areas in order to expedite the province's agricultural development. The conference was attended by responsible persons in charge of agricultural water conservancy work of various prefectures, municipalities and some counties, responsible persons of departments concerned, scientific research units as well as experts and professors of colleges and universities.

The conference noted that the water and soil conservation task of our province is very difficult. There are still 23,000 square kilometers of eroded areas in hilly sections that urgently need improvement. Of the initial 20,000 square kilometers of lands that have been improved, some have been damaged again. Those that have not been damaged again also need further improvement. The task of planting trees and grass to prevent windstorms and to immobilize shifting sands is still arduous for the province's 16,000 square kilometers of plains and windy and sandy areas. Therefore, controlling soil erosion as soon as possible, protecting water and soil resources, creating a good environment for production is of great significance in building mountainous areas, expediting the province's agricultural production and creating a new situation in all fields of socialist modernization.

The meeting urged all localities to take the guidelines of the 12th party congress as a guide, implement the guidelines of the fourth national water and soil conservation work conference, adhere to the principle regarding the work of water and soil conservation formulated by the State Council, which urges efforts to pay equal attention to preventing and tackling problems, to combine problem-tackling work with management, to suit measures to local conditions, to map out overall plans, to tackle problems comprehensively and to [words indistinct]. The meeting also urged efforts to continuously implement the guidelines of the provincial work conference on building mountainous areas. In carrying out water and soil conservation work in the days to come, we must lay stress on the following three points:

1. Actively improve vegetation. Prior to 1990, efforts must be made to plant trees on all lands that can be afforested and to plant grass in all places that need grasslands. Plains, and windy and sandy areas must complete the afforestation and grass-planting work 3 to 5 years prior to 1990.

2. Terraced fields must be built in mountainous areas so as to attain the demands of conserving water, soil and soil fertility.

3. Actively build projects to stop drifting sands from shifting into water areas.

In short, we must grasp the key points, tackle problems concerning water and soil conservation comprehensively, concentratedly and continuously and strive to basically control the province's soil erosion by the end of this century.

The conference stressed: The key to doing a good job in water and soil conservation work lies in leadership. Leaders at all levels must attach importance to the guiding principle, pay due attention to water and soil conservation work and grasp this work on a long-term basis and with good results. Efforts must be made to implement the regulations regarding water and soil conservation formulated by the State Council, map out good water and soil conservation work plans, do a good job in conducting scientific research and technical training work, arouse the enthusiasm of all quarters and upgrade the work on conserving water and soil in a down-to-earth manner.

CSO: 4007/58

BRIEFS

MECHANIZED FARMING--Various localities of Shandong Province have called in the service of farm machinery to accelerate autumn sowing. As of early October, 336,000 tilling and harrowing machines and 39,000 sowing machines had been utilized. Of the total farmland, 74 percent were tractor-plowed and 46 percent tractor-sown. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 26 Oct 82 SK]

WHEAT SOWING--By 27 October, Shandong Province had sowed 55.6 million mu of wheat, overfulfilling this year's autumn wheat sowing task. Linyi Prefecture had sowed 7.75 million mu of wheat by 27 October, overfulfilling plan by 1.2 million mu. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Oct 82 SK]

WHEAT PLANTING--Jinan, 25 Oct (XINHUA)--Shandong, a major wheat area in China, has basically completed this year's autumn wheat sowing task. By 20 October, the province had planted 54 million mu, an increase of 3 million mu over the same period last year. Wheat sowing is continuing in many prefectures which try to expand their wheat area. The province's total wheat area is expected to reach 55 million mu this year. [Beijing XINHUA Domestic Service in Chinese 1154 GMT 25 Nov 82 OW]

CSO: 4007/58

BRIEFS

DIVERSIFIED ECONOMY—Shanghai's foreign trade departments have vigorously supported the suburban counties in developing diversified economy and increasing production to expand exports. This year, total volume of products from diversified economy procured by foreign trade departments reached 350 million yuan, which is 3 1/2 times the 1977 figure. These products will bring in more than $120 million in terms of foreign exchange and will add more than 35 million yuan to the state's revenues and profits. [Shanghai City Service in Mandarin 1130 GMT 24 Oct 82 OW]

CSO: 4007/58

MEETING ON WATER, SOIL CONSERVATION

HK100337 Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 9 Nov 82

[Summary] The Shanxi Provincial Water and Soil Conservation Committee held a provincial conference on water and soil conservation in Taiyuan from 2 to 6 November. The meeting stressed: "In creating a new situation in water and soil conservation work in the province, we must: 1) vigorously popularize the experience of having households take contract responsibility for harnessing small river basins, and 2) resolutely curb destruction of forests and grassland and the reclamation of barren slopes."

Having households undertake contract responsibility for harnessing small river basins is a new thing that has appeared in the rural areas following the institution of the comprehensive contract responsibility system and a good way of speeding up construction in the mountain areas. Xinxian Prefecture has popularized the experience of a peasant household in this respect since July. In only 2 months or so, 41,700 peasant households in the prefecture have undertaken contract responsibilities for harnessing 6,800 small river and stream basins, covering a total area of 397,000 mu. Many places throughout the province are studying this experience.

The conference pointed out: In instituting this system, it is first essential to do a good job in planning. Various flexible measures should be adopted in light of local conditions.

The conference stressed: "At present there is serious destruction of forests and grassland and reclamation of barren slopes in many places in the province. Harnessing is carried out on the one hand and destruction on the other. In some places the destruction actually exceeds the harnessing. We must resolutely curb this situation and slam on the emergency brake. If we let it go on, the province's limited [words indistinct] resources will be seriously damaged."

Many of the participants said: "Many leading cadres have not regarded destruction of forests and grassland and reclamation of barren slopes as economic crimes. They just treat it as a measure for increasing grain production. Many leading cadres even take the lead in reclaiming the barren slopes. The state has now promulgated work regulations for water and soil conservation. In the future, leadership responsibility will be investigated for any failure to enforce them."

CSO: 4007/58

SHANXI

PRELIMINARY SUCCESSES IN HEXAPLOID COTTON HYBRIDS REPORTED

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 9, 20 Sep 82 p 2

[Article Li Bing Lin [2621 3521 2651], Zhang Xinrun [1728 2450 3387] and Wang Yun [3769 0060], Shanxi Agricultural University: "New Progress in Interspecific Hybridization Research on Asia Cotton and G. Bickii Cotton"]

[Text] Accompanying the need for development of cotton production, people have made higher and greater demands for cotton varieties. They have desired that varieties bred be high yielding and early maturing, have high fiber quality, be resistant in amy ways, highly resistant to diseases and insect pests, and such superior properties, while at the same time having the properties of seeds without glands [5177 7555] and plants with a high gland content so that cotton products will have all-around usefulness, production costs lowered and environmental pollution reduced. Because of the shortage of cotton germ plasm resources today, it is difficult to breed species with pronounced characteristics through the use of conventional cotton growing methods. Consequently, it is necessary to expand plasm resources for cotton breeding, artificially creating more and better breeding plasm. Use of remote hybridization methods to make new combinations from beneficial genes in wild growing cotton species and genes from upland cotton currently being farmed is a major way in which to realize the foregoing objective. Since 1965 when the world's first phenol-free cotton was bred until the present time, the numerous phenol-free dotton varieties that have been bred have not been promoted to wide area cultivation because of their proneness to diseases and insect pests. In 1965 Fryxell discovered that undomesticated G. bickii cotton had the special characteristic of delayed formation of oil glands and that the seeds contained no glands; however, the boll loculi had generating cells for oil glands, but only after the seeds has sprouted did the oil glands form. During the past 10 years and more, much research in this regard has been conducted abroad in an effort to transfer this trait to cultivated upland cotton varieties, without any success whatsoever. This trait was not found among the hexaploid (ADG) cotton bred from the hybridization of upland cotton and G. bickii cotton by Molamotuo [phonetic]. By way of exploring ways to breed varieties having seeds without glands and plants with high gland content, our thought was first to transfer this trait from G. bickii cotton to A or D chromosome cotton seeds, thereafter doubling the transferred hybrid chromosomes and then conducting further study of the possibilities for transfering this trait to domesticated upland cotton hybrids. First the results of research that had been done on the hybridization of Asia cotton and G. bickii cotton was used for briefing purposes as a way in which to provide cotton breeding workers a reference for use.

G. bickii cotton is a wild growing creeping cotton plant that grow in central Australia, $2n = 26$, its chromosomes belonging to C_4 of C group. Most recent research reports have additionally classed it as a new chromosome group G_1. The stalks and both sides of the leaves of this cotton variety are covered with fuzz (5000 - 6000 individual hairs/cm^2). Most of the leaves are rather small and ovular in shape. Ventilation and light penetration characteristics are very good Bracts are particularly small and stand out from plants, thereby reducing the contamination of cotton fiber with bract leaves that lowers cotton quality, which is a very fine trait. Plants have many branches, and have strong boll formation characteristics and a low rate of bud and boll drop; they are also early maturing drought resistant, disease and insect resistant, and fibers are fine and strong. Particularly because the seeds lack glands while the plants have a high gland content, these plants are an extremely valuable plasm resource in the breeding of cotton. Our hybridization work got underway in the school's hothouse in August 1980. Using the small black seeds of Asia cotton brought from the west as the female parent, and the wild growing G. bickii cotton as the male parent, much cross-pollinization was done during the period of vigorous flowering of plants. After removal of the male organs and artificial pollination, drops of gibberelin (GA) and methyl a-naphthyl acetate (NAA) were put inside the bracts to preserve the bolls. That year 6 zero generation hybrid seeds were obtained. Planted in early April 1981, two plants survived and began budding in July. Trait mutations were numerous and remarkable in the first generation hybrid plants. The plants looked like cedar trees and manifested the strong boll formation characteristics, the small leaves, the lack of compactness of bolls around bracts, and numerous characteristics of the male parent, while the cotton boll and numerous seed traits were close to those of the female parent (Asia cotton). Statistics derived from preliminary observation of 20 traits of the hybrids showed seven similar to the male parent's traits including color and luster of petals, and flowering characteristics. Three traits resembled those of the female parent including size of seeds and shape of bolls. There were six mutations that contained traits from both, and four other mutations. In order to enlarge the number of first generation hybrid plant colonies, we propagated 10 plants using asexual grafting, which were supplied as experimental materials for hybridization with upland cotton and for doubling of hybrid chromosomes.

A high amount of infertility existed in first generation plants resulting from the crossing of Asia cotton with G. bickii hybrid variety. After plants budded, within 2 or 3 days all the buds fell off the plants. After hormones were used to preserve the bolls (drops of gibberelin and methyl a-naphthyl acetate applied inside the bracts), though buds stopped dropping, once the cotton bolls split open, only a very small degenerate embryo was found within. Microscopic examination of pollen showed irregularities in size, most pollen being rather small and round in shape. No semicircular or short thick pollen was found. When stained with the reagent, benzidine methonaphtol (5114 0058 5143 3946 6055 1568], observation showed only 1.3 percent of the pollen to be alive, which explains why there was a high rate of infertility among male gametes in first generation hybrids, and this was the principal reason why the first generation hybrid plants did not form bolls.

In order to overcome infertility in first generation hybrids, we undertook a doubling of plant chromosomes. We used a solution of 0.2 percent cochicine and 5 percent dimethylsulfoxide at a temperature of 25°C to treat growth points on several different parts of plants for 24 hours. In April this year five bolls formed on branches whose chromosomes had been successfully doubled, and after all had been opened, 50 plump first generation seeds were obtained.

To summarize the foregoing, our research results showed that by using effective measures of sexual hybridization plus hormone treatment of matched plants of domesticated diploid Asia cotton and wild growing G. bickii, obstacles to their reproduction can be overcome and first generation hybrid seeds obtained. At the same time, by using cochicine to treat growth points on first generation plants, it is possible to restore their fertility and obtain plump F_1 generation seeds. Now we are in process of carrying out hybridization of upland cotton. The hybrids formed from corssing of Asia cotton with G. bickii cotton may supply the plasm resources needed for breeding early maturing, drought resistant, disease and insect resistant, fine fiber quality varieties that can be used in an all-around way for food, cotton, and oil.

9432
CSO: 4007/11

'WEN WEI PAO' ON HU YAOBANG'S VISIT TO LIANGSHAN

HK170421 Hong Kong WEN WEI PAO in Chinese 17 Nov 82 p 3

[Report: "Hu Yaobang Visits Liangshan, Stresses Developing Animal Husbandry"]

[Text] Chengdu--Recently, not long after the convening of the 12th CPC Congress, Hu Yaobang inspected Dukou Municipality and Liangshan Autonomous Prefecture in Sichuan Province. During his investigation of the cadres and masses in Liangshan, Hu Yaobang discovered that to change the state of affairs in Liangshan, they should exert their superiority and the development of animal husbandry should be stressed. So as to enliven their thinking and broaden their field of vision, Hu Yaobang listed large number of facts, calculated many itemized accounts and repeatedly explained from north to south and from internal to foreign the great significance of conspiciously developing animal husbandry.

Hu Yaobang said: Recently, I made some investigations in the north. The income from four dairy goats is equal to the salary of a new university graduate. 6 jin of milk is equal to 1 jin of grain. If Liangshan Prefecture can breed 6 million dairy goats, this would be equal to 1 million dairy cows. They can then produce 2 million tons of milk a year, equal to 6 million jin of grain. This is a considerably figure. Milk and meat are the staple food in many countries at present. The Henggu (Monggol), Heiwuer (Uygur) and other minority nationalities of our country also take milk and meat as their staple food, so they are sturdy and strong. Our Yi and Han nationalities should also imitate them in this respect and gradually change the composition of our diet. There are more than 6 million mu of cultivated land in Liangshan Yi Autonomous Prefecture. The area of wooded and hilly lands, grassland and water is ten times more than the area of cultivated land. Therefore, it is quite obvious that we must proceed from this practice, carry out a combination of agriculture. forestry and animal husbandry, and raise the development of animal husbandry to a more important position. We must also be aware that this is a revolution in the agricultural sphere. Only by carrying on this revolution step by step for a decade or two can we have a radical change. Otherwise, if we insist on a single product economy grasping only the grain, ignoring the development of a diversified economy and are keen on reclaiming wasteland on the hillside at 50 to 60 degree angles and trying to plant buckwheat and maize, it will be impossible to change the present situation and we will become poorer and poorer.

CSO: 4007/58

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TITLE: "On the Appropriate Period for Irradiation of Crop Zygote. II. Fertilization Process and Duration of Zygote Stage of Wheat"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 3, 17 Sep 82 pp 1-6

TEXT OF ENGLISH ABSTRACT: The time of fusion of male and female nuclei and the duration of zygote stage after artificial pollination of different wheat varieties were studied. The purpose of this study is to find out a suitable time for irradiating the zygote in order to increase mutation rate and get more steady mutants.

Three wheat varieties were used, namely, Nong Da 139, a winter wheat, YLN 7926, a spring wheat, and YLN 7617, a wheat variety of the intermediate type. The processes of pollination through fusion of male and female nuclei to the beginning of the zygote stage are similar. They usually take 6-7 hours. But the duration of the zygote stage is different. For Nong Da 139, YLN 7617 and YLN 7926 it

[Continuation of YUANZINENG NONGYE YINGYONG No 3, 17 Sep 82 pp 1-6]

appears from the 7th to the 13 hour, from the 6th to the 11th hour, and from the 7th to the 23rd hour after pollination, and lasts 7 hours, 6 hours and 17 hours respectively. It is suggested that the duration mentioned above could be the appropriate period for irradiation of wheat zygotes.

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TITLE: "Cytological Effects of ^{60}Co Gamma Radiation on Root Tip of *Vicia faba* in Different Cell Cycles"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 3, 17 Sep 82 pp 7-12

TEXT OF ENGLISH ABSTRACT: The sprouting seeds of *Vicia faba* were treated by ^{60}Co gamma radiation with the same dose (1850R) and the same dose rate (90R/min) at intervals of 2 hours for a whole day. Taking 1 day as a cycle, we carried out a cycle observation on the aberrations of cells.

The experimental results show that gamma radiation had an obvious inhibition effect on the mitosis of root tip cells of *Vicia faba* and there was an apparent difference in radiation sensitivity at different mitotic stages between the cells. The frequency of different types of chromosomal aberration was positively correlated with the number of total aberrations. However, irradiation at different stages of

[Continuation of YUANZINENG NONGYE YINGYONG No 3, 17 Sep 82 pp 7-12]

the cell cycle led to different results. When radiation took effect at the early S stage, the maximum chromosome aberrations amounted to 48.1 percent of the total aberrations, while in chromosome aberrations the fragments reached as much as 50 percent. When radiation took effect at the later S stage, the nuclear aberrations amounted to 86.1 percent of the total aberrations, while in nuclear aberrations the micronuclei reached as much as 82.8 percent.

Therefore, in radiation breeding attention must be paid not only to good material, proper mutagenic agents and adequate dosage, but also to appropriate stage of mitotic cycle of the sprouting seeds to be irradiated.

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TITLE: "Selection of Wheat Mutant Long Fu 5009 Resistant to Root Rot"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 3, 17 Sep 82 pp 13-16

TEXT OF ENGLISH ABSTRACT: The dry seeds of the wheat variety "663 Red" were irradiated by ^{60}Co γ-rays and argonion lasers. The mutant strain "Long Fu 5009" was selected from the seventh generation for resistance to root rot. It produced more grain than its parent and the control variety. In inoculation experiments in 1978 and 1979 it displayed stronger resistance to root rot. As for maturity, it was not an extremely early type. The changes in awn type and glume color were not due to single gene mutation. Genes controlling the awn type and the glume color were of incomplete linkage.

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TITLE: "A Study of the Activity of Corn Root System and Its Distribution in Soil"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 3, 17 Sep 82 pp 17-22

TEXT OF ENGLISH ABSTRACT: ^{32}P was used as the trace for investigating the activity of different corn roots and their distribution in the soil. The experimental results indicated that the corn roots arising from higher nodes (especially the aerial roots) were the main organs which absorbed the inorganic nutrients from the soil in the middle and late growing period of maize. The active sphere of the root system moved gradually downward as the growing season pushed on. A cylinder of 20 cm in diameter and 40 cm in depth, with the plant as the center, was marked to be the active region of corn roots. For the purpose of producing better yields, more attention should be paid to the aerial (brace) roots arising from higher nodes and to the extension of the rich soil layer.

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TITLE: "A Study of the Nutrition of Rice Seedlings Grown in Soilless Culture in Greenhouse"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 3, 17 Sep 82 pp 26-32

TEXT OF ENGLISH ABSTRACT: The technology of soilless culture and the nutrition of seedlings of early rice grown in a greenhouse have been studied with ^{32}P and ^{15}N as tracers. The experimental results show that it is necessary to give light to the seedlings at the one-leaf-stage because it can promote the greening of the seedlings and enhance the quality of the seedlings. The seedlings of the soilless culture can strongly absorb external nutrients before the trifoliate stage. Hence stronger seedlings of early rice can be produced by supplying the seedling with mineral fertilizers, and good harvests can be obtained from the seedlings of the soilless culture.

9717
CSO: 4011/25

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TITLE: "Morphological Changes of the Surface of the Eggs of *Rana amurensis* During First Cleavage by Fluorescence Microscopy--Receptors of Wheat Germ Agglutinin and Soybean Agglutinin"

SOURCE: Shanghai SHIYAN SHENGWU [ACTA BIOLOGIAE EXPERIMENTALIS SINICA] in Chinese No 3, Sep 82 pp 375-381

TEXT OF ENGLISH ABSTRACT: Receptors of wheat germ agglutinin (WGA) and soybean agglutinin (SBA) are present on the denuded living egg surface of *Rana amurensis*. Before cleavage these receptors distribute evenly all over the animal pole. At the onset of cleavage, numerous bright fluorescent granules which correspond to the protrusions in the scanning electron microscope are seen on the cleavage stripe and many bright radiated rays, identified as folds, are visible on the side of the cleavage stripe. Soon after, the new membrane having much less FITC-lectin binding ability appears and divides the cleavage stripe into three bright lines. The middle one is the primitive contractile ring. During cleavage, the new membrane increases gradually. However, when the denuded eggs are immersed

[Continuation of SHIYAN SHENGWU No 3, Sep 82 pp 375-381]

in a high concentration of WGA (500 γ/ml) before cleavage, the new membrane appears only for a short time, then vanishes, leaving a black streak. These results are in line with those found in newt's eggs. In a high concentration of SBA (100 γ/ml), the new membrane is exposed continuously but on a much smaller schedule. The contractile ring initially works normally, then fails to work, and the new membrane bulges out. Finally the new membrane disappears as do those in WGA.

In a few FITC-SBA stained eggs, a large dark halo, its center often coinciding with the center of the furrow, appears quickly and persists for several minutes to more than an hour, so that it may overlap with the halos seen on the second cleavage stripes. The darker overlapping area gradually decreases and eventually disappears, while the halos on the second cleavage furrows move away. Sometimes a bright halo may be seen on the egg surface. As the halo contracts, it becomes brighter and brighter. Finally many radiated stripes and a nipple-like structure are found in the center of the halo. A few receptors, however, remain or lag behind during the contraction of the bright halo. This indicates that the receptor can become mobile or increase its moving rate under certain conditions. The increasing of fluorescence, however, does not always result from the movement of the receptor, but from the movement of the cell surface. By pushing the evenly distributed fluorescent egg surface, many brighter lines appear at the folded places. An increase in fluorescent intensity due to the fold of the egg surface is also present, as are the bright radiated rays and granules at the cleavage stripe.

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TITLE: "Callus Induction and Plant Regeneration in Dehulled Rice Seeds of the Hybrid Rice in *Oryza sativa* Subsp. *Japonica*"

SOURCE: Shanghai SHIYAN SHENGWU [ACTA BIOLOGIAE EXPERIMENTALIS SINICA] in Chinese No 3, Sep 82 pp 387-391

TEXT OF ENGLISH ABSTRACT: By using the hybrid rice material in *Oryza sativa* subsp. *Japonica*, we have studied the relationships between the different seed statuses and the efficiency of the callus induction. It is found that the results are good and the method is easy by culturing the dehulled hybrid rice seeds directly. If the seeds have germinating capacity, the induction frequency can reach 100 percent. By histological observations it is demonstrated that the callus can grow out from the hypocotyl position.

[Continuation of SHIYAN SHENGWU No 3, Sep 82 pp 387-391]

In the dehulled hybrid rice seed culture, the optimum concentration of 2, 4-D for the callus induction is 3 mg/1.

There are close relationships between the age of the callus and the frequency of the green plantlet differentiation. In general, the optimum age is 15 days old.

9717
CSO: 4011/18

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TITLE: "New Strategy of Forestry Development in China"

SOURCE: Nanjing NANJING LINCHAN GONGYE XUEYUAN XUEBAO [JOURNAL OF NANJING TECHNOLOGICAL COLLEGE OF FOREST PRODUCTS] in Chinese No 3, Sep 82 pp 1-4

TEXT OF ENGLISH ABSTRACT: According to the speech "Situation in Forestry and Our Task" delivered on 28 Oct 1981, then the Minister of Forestry, this article probes into the major points of the new strategy of the forestry development in China. 1) Forestry work should be focused on afforestation, forest protection and greening the country. This is the essence of the new strategy. In the past, the forestry work was unduly centered on timber production, which resulted in severe ecological disasters. Under such circumstances, strategical shift is something imperative. 2) The foundation of forestry theory and ideological basis of the new strategy is to recognize, according to the laws of economy as well as the law of nature, the important role of the forest in an all-around way. Needless to say, the forest can provide timber and various kinds of forest products, but what is more important is the fact that it has multiple functions and offers multiple benefits. 3) In the past, due to the influence of the erroneous "left" ideology, the enthusiasm of the peasants was dampened, thus resulting in such damage as low survival rate of

[Continuation of NANJING LINCHAN GONGYE XUEYUAN XUEBAO No 3, Sep 82 pp 1-4]

seedlings in afforestation. Therefore, we must now apply the party's policy to emancipate the minds of the peasants and bring out their initiative. 4) Backwardness in forestry science and technology is the chief cause hindering the production of forestry. To solve this problem, great efforts must be made to raise the level of forestry science and technology, advocate scientific management and popularize forestry education. Only in this way can forestry development be speeded up.

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TITLE: "A Preliminary Study of the Characteristics of Agricultural Systems Engineering"

SOURCE: Nanjing NANJING LINCHAN GONGYE XUEYUAN XUEBAO [JOURNAL OF NANJING TECHNOLOGICAL COLLEGE OF FOREST PRODUCTS] in Chinese No 3, Sep 82 pp 39-45

TEXT OF ENGLISH ABSTRACT: 1. Agricultural systems engineering is the application of systems engineering to the management of macro-agriculture, a modern technique in the organization and administration of the movement of macro-agriculture economics and of the productive activities of micro-agriculture.
2. Agricultural systems engineering is a branch of systems science, whose main objects of study are the logic, information and program in the field of agriculture, belonging to the category of "soft" science.
3. Apart from the common basic theories for systems engineering, such as operations research and computer science, agricultural systems engineering has its own specific basic theory, i.e., farming science, which studies the laws of conducting macro-agricultural production.
4. The objective of agricultural systems engineering is to speed up macro-agricultural production so that more material wealth can be created and to improve the systems of nature in order to create a desirable, reasonable and highly efficient ecological system.

[Continuation of NANJING LINCHAN GONGYE XUEYUAN XUEBAO No 3, Sep 82 pp 39-45]

5. Viewed from the standpoint of systems science, macro-agricultural production system has characteristics with complex mechanisms, i.e., regionalism, periodicity, comprehensiveness, systematism, orderliness and being subject to chain reactions. In conducting agricultural production, one should bear in mind all these characteristics and the actual conditions of the specific locality and time, analyze the contradictions and coordinate relevant links and factors, going forward step by step in dynamic equilibrium.

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TITLE: "Studies on the Relationship Between Soil Moisture and Tree Growth in a Pine Forest Ecosystem in Nanjing"

SOURCE: Nanjing NANJING LINCHAN GONGYE XUEYUAN XUEBAO [JOURNAL OF NANJING TECHNOLOGICAL COLLEGE OF FOREST PRODUCTS] in Chinese No 3, Sep 82 pp 97-108

TEXT OF ENGLISH ABSTRACT: The pine forest ecosystem we have studied is situated at the purple mountain not far from Dr Sun Yat-sen's mausoleum, Nanjing, Jiangsu Province. Masson's pine trees (Pinus Massoniana Lamb.) constitute more than 80 percent of the total composition of the pine stand, are 12-14 years old, with a canopy density of 0.7, stand density of 120 trees/mu (or 1800 trees/ha), stand height 5.5 m, and average breast-height diameter 11 cm. The undergrowth is mainly intolerant grasses, 60-100 cm high, with a coverage of 40-50 percent. The soil is yellow brown earth, heavy loam to clay.

A formula for the moisture equilibrium in forest soil has been suggested in this paper to study the variations of soil moisture and their effects on tree growth. The main conclusions we arrived at are as follows:

The annual variations of soil moisture in a pine stand can be divided into four

[Continuation of NANJING LINCHAN GONGYE XUEYUAN XUEBAO No 3, Sep 82 pp 97-108]

phases in Nanjing region. During the phase from April to June, when the water supply is most important for tree growth, soil moisture is fairly sufficient, although a little uncertain at times.

There is no significant variation of soil moisture beneath 20 cm of the ground. Soil moisture there is much more stable than that at the layer above. So if we adopt some measures to make the roots of the trees penetrate deeper into the soil layers, they will absorb more water and grow better.

The height growth of trees and the growth of early wood and late wood are closely related to the hydrothermal coefficient of climate and the available water. In the April-June phase, the multiple correlation coefficient of the average height growth of trees to the hydrothermal coefficient of climate and the capacity of available is 0.962, and that of early wood growth of trees to those is 0.947. In the July to September phase, such a multiple correlation coefficient of late wood growth to those is 0.851. With the analyses of the correlations, it is possible to use the hydrothermal coefficient, especially together with the available water supply in soil, to predict the growth of the stand.

The pine stand can make the soil desiccative during the growing season and moist during the dormant season in the mountainous region in Nanjing.

9717
CSO: 4011/26

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TITLE: "Basic Method of Resolving the Problem of Aridity in Shanxi Province"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 10, 20 Oct 82 pp 2-5

ABSTRACT: In Apr and May, the author spent more than one month to visit the 20+ counties in Xishan, Pingchuan, and South Shanxi to talk with the local cadres and masses about the situation of agricultural production. The response he got was that the policy is good, the people are diligent, but all depend upon whether the weather is going to be helpful. Following a detailed observation and analysis of the problem, the author believes that it essentially involves the following: (1) The State cannot afford to invest a large amount of capital for water conservancy engineering at present; (2) The lack of water resources in the province; (3) Due to insufficient sources of water, some existing engineering structures have become ineffective; (4) The problem of aridity also involves water and soil erosion, sparse vegetative cover, uneven distribution of rainfall, and ecological imbalance. Following this analysis of the facts, the author presents in the paper a program of comprehensive treatment of the soil, the water, and the forests. The program is explained in some systematic detail, with concrete steps for its implementation. This paper originally appeared in SHANXI RIBAO 2 Aug 82.

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TITLE: "Analysis of Ecological Types of Soybean Varieties in Shanxi Province: II. Geographic Distribution of Stalk And Yield Characteristics of Soybean"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 10, 20 Oct 82 pp 11-14

ABSTRACT: In 1974 to 1980, 765 specimens were selected from 1,000 materials of farm varieties of soybean collected from 85 counties (cities) of Shanxi Province and grown for 2 years in the experimental field of the office. Based upon the classification of the author (1981) of soybean cultivars of the province into 6 ecological adaptation regions, the height of stalk, the number of branches, the number of nodes on the main stem, the height of pod formation, the ratio between grains and stem, the number of pods per stalk, the number of beans per stalk, the weight of stalk and beans, the average weight of 100 beans, the standard deviation, and the variation coefficient of the 765 specimens were analyzed. Based upon the analytical data thus obtained, the geographic distribution of the stalk characteristics and the geographic distribution of the yield characteristics are discussed separately in the paper.

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TITLE: "Relationship Between Corn Head Smut and the Planting Time"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 10, 20 Oct 82 pp 15-16

ABSTRACT: The major route of infection of the fungous disease of head smut of corn is soil. If the soil carries the disease, the temperature and humidity of the soil after seeding affect the severity of the disease. In areas of spring corn, the seeding time varies to create a variation of the soil temperature and moisture condition and hence the difference in the severity of the disease. Some scientists believe if seeding is early, the seedling stage is prolonged and there will be more opportunity for infection. Others believe the diseaseis milder if seeding is either early or late and the incidence of the disease is the highest if the corn is seeded at a proper time. In 1980-81, the authors carried out an experiment in the northern suburb of Taiyuan with corn of different disease resistance and different seeding times, followed by another experiment using different temperature treatments. Results indicate that seeding time has no effect on the disease-resistant varieties. With the susceptible varieties, proper early or late seeding may reduce the severity. With the highly susceptible varieties, the disease will be severe regardless of the seeding time; they should never be used.

AUTHOR: None

ORG: Bovine Breed Resources Survey Group, Shanxi Province

TITLE: "A Newly Discovered Type of Oxen-- The Pinglu Mountain Ox"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 10, 20 Oct 82 pp 17-19

ABSTRACT: In 1980-81, in the process of carrying out a survey of bovine breeds in Shanxi Province, the group discovered a new typeof oxen-- the Pinglu mountain oxen. Preliminary inspection indicates that it is primarily a draft animal, with some meat producing potential. The condition of its native habitat, its distribution and formation, its morphology and size, its work capacity, its feeding and reproductive characteristics, and its shortcomings and some suggestion for its improvement are discussed. This breed has a high content of good quality and tender lean meat. Related departments are urged to breed it and to open a market for it as a meat animal.

AUTHOR: LUO Zhicheng [5012 1807 2052]

ORG: None

TITLE: "ZHAO Hongzhang [6392 3163 3864]"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 10, 20 Oct 82 inside backcover

ABSTRACT: This paper is a brief biography of the wheat breeding specialist, ZHAO Hongzhang who successfully bred out in 1970 the highly adaptable, lodging resistant, Aifeng No 3, yielding more than 1000 jin/mu. He was born in 1917 in Qi County of Henan and was a graduate of the Department of Agronomy of the Northwest College of Agriculture in 1940. Disheartened by the low wheat yield of his native Guanzhong due to rust and midge, he was determined to breed disease and pest resistant varieties of wheat and produced the high yield, good quality, and rust resistant Bima No 1 in 1947, just before the liberation. He joined the Communist Party in Mar 56 and was elected to the National People's Congress twice. His major writings include: "Process of Selective Breeding of Bima No 1," "A Superior Breed of Wheat," "Several Problems in the Wheat Hybridization Work," "Shaanxi Wheat," etc. A photo of the scientist is included.

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CSO: 4011/23

AUTHOR: ZENG Yangzhi [2582 7402 1807]
LUO Lihua [5012 7787 5478]
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SHAN Xiangnian [0830 4382 1628]
et al.

ORG: ZENG of the Agricultural University of Yunnan; LUO, CAO and SHAN et al., all of the Kunming Institute of Zoology, Chinese Academy of Sciences

TITLE: "Karyotype Studies on Domestic Pigs in Southern China"

SOURCE: Tianjin XUMU SHOUYI XUEBAO [ACTA VETERINARIA ET ZOOTECHNICA SINICA] in Chinese No 3, Aug 82 pp 167-171

TEXT OF ENGLISH ABSTRACT: This paper presents the karyotype studies on domestic pigs in southern China. The diploid chromosomes are 2n=38 in both sexes. The X-chromosome is a metacentric chromosome and the Y is a smaller submetacentric one.

The chromosomes are measured and divided into four groups according to their relative length, arm ratio and centromere index of each chromosome. The Nos 1 to 5 of group A are submetacentric chromosomes (SM); Nos 6 and 7 of group B are subtelocentric chromosomes (ST); Nos 8 to 12 of group C are metacentric chromosomes (M) and Nos 13 to 18 of group D are telocentric chromosomes (T).

[Continuation of XUMU SHOUYI XUEBAO No 3, Aug 82 pp 167-171]

Both the G-band and C-band are described, with the G-banding pattern revealing no significant differences with that of domestic pigs so far reported. The polymorphism of the C-band may be related to the varietal differences between domestic pig breeds.

AUTHOR: ZHOU Cuiti [0719 5050 1029]
CHEN Jiadi [7115 0857 2769]
LI Jishen [7812 3444 3747]

ORG: All of the Animal Husbandry and Veterinary Medicine Research Institute, Shanghai Agricultural Academy

TITLE: "Serological Identification of Porcine Respiratory Tract Micoplasmas in China"

SOURCE Tianjin XUMU SHOUYI XUEBAO [ACTA VETERINARIA ET ZOOTECHNICA SINICA] in Chinese No 3, Aug 82 pp 181-188

TEXT OF ENGLISH ABSTRACT: Twenty-one strains of micoplasma isolated from respiratory tracts of swine from six provinces, municipalities and autonomous regions of China were identified serologically and proved to belong to two species by the method of dry paper disc growth-inhibition test, using antisera to the Jinan strain isolated from pigs with "swine asthma" and to a mycoplasma hyorhinis-like strain L6. Twelve strains of the "swine asthma" pathogen out of the 21 isolated strains were of the same species.

The Jinan strain was proven to be identical with the type culture NCTC No 10110 of M. hyopneumoniae, and the strain L6 with the BTS7 of M. hyorhinis. The original causative agent of "swine asthma," widespread in China, was thus demonstrated to be M. hyopneumoniae.

AUTHOR: WU Shiyou [0702 2514 0645]

ORG: Institute of Animal Husbandry and Veterinary Medicine, Shandong Academy of Agricultural Sciences

TITLE: "A Study of the Pathogenesis of Experimental Escherichia Coli Enterotoxaemia of Swine"

SOURCE: Tianjin XUMU XHOUYI XUEBAO [ACTA VETERINARIA ET ZOOTECHNICA SINICA] in Chinese No 3, Aug 82 pp 189-193

TEXT OF ENGLISH ABSTRACT: Freeze-thawed lysates of hemolytic Escherichia coli 0139 were centrifuged. The supernatant was separated into three portions by Dextran gel (sephadex G-200) chromatography. The first portion was parenterally administered to seven weaned pigs. The clinical signs and pathology of the inoculated pigs were similar to those found in other endotoxin shocks. The second portion was parenterally administered to eight weaned pigs. Their clinical signs and pathological pictures were the same as those of the naturally occurring oedema disease of pigs. Experimental E. coli enterotoxaemia of swine can be divided into two categories: one is the "endotoxin shock type" produced by the endotoxin and the other is the "oedema type" caused by oedema disease principle.

AUTHOR: ZOU Yi [6760 1542]
CHEN Shiquan [7115 0013 4019]
XIE Debiao [6200 1795 7777]
et al.

ORG: All of Jiangxi Agricultural University, Nanchang

TITLE: "Determination of Serum Transferrin Phenotypes in Swine"

SOURCE: Tianjin XUMU SHOUYI XUEBAO [ACTA VETERINARIA ET ZOOTECHNICA SINICA] in Chinese No 3, Aug 82 pp 194-197

TEXT OF ENGLISH ABSTRACT: Transferrin phenotypes have been detected in all domestic animals examined so far. Various investigations abroad have indicated some relationship between transferrin phenotype and reproductive performance in pigs, cattle and sheep. In order to explore such a relationship in Chinese pigs and to apply it to the selection and breeding of swine, the phenotypes of serum transferrin were examined in 217 samples from Ganzhou White pigs of Jiangxi Province by the starch gel electrophoresis technique. Protein in 180 samples occurred in various molecular forms exhibiting multiple band patterns on the stained gel after electrophoresis. According to Michael's work in which transferrin phenotypes were identified in starch gel electrophoresis by autoradiography with Fe^{59}, the locations of the bands were determined by electrophoresis relative

[Continuation of XUMU SHOUYI XUEBAO No 3, Aug 82 pp 194-197]

mobility. Six transferrin phenotypes (AA, BB, CC, AB, AC and BC) were separated in the Ganzhou White. The gene frequency of T_fBB was the highest among the breeds (including Yorkshire and Taiwan native swine) examined, while that of T_fAA was higher than that of T_fCC. The results obtained were in agreement with a genetic theory of serum protein.

AUTHOR: KONG Zhongfu [1313 1813 1381]
DA Shunying [4572 5293 5391]
ZHONG Xiaofen [6945 1420 5358]
et al.

ORG: All of the Anti-epidemic Station of Guangxi Zhuangzu Zizhiqu et al., Nanin, Guangxi

TITLE: "Studies on the Secretion of Aflatoxin M_1 in Cow's Milk After Aflatoxin B_1 Feeding"

SOURCE: Tianjin XUMU SHOUYI XUEBAO [ACTA VETERINARIA ET ZOOTECHNICA SINICA] in Chinese No 3, Aug 82 pp 199-204

TEXT OF ENGLISH ABSTRACT: This observation was carried out with 12 dairy cows (crossbred) which were divided into 2 groups and fed separately with a diet containing 20 and 50 ppb of Aflatoxin B_1. The secretion of Aflatoxin M_1 in milk was found to be 0.52 and 1.58 ppb (on the average) respectively. The amount of Aflatoxin M_1 secreted was significantly related to the Aflatoxin B_1 administered. The rate of conversion of Aflatoxin B_1 was calculated to be 5.75 percent and 7.01 percent respectively, and the difference was considered to be significant. After stopping administration of the diet with Aflatoxin B_1 for 5 days, no Aflatoxin M_1 was detected in milk.

[Continuation of XUMU SHOUYI XUEBAO No 3, Aug 82 pp 199-204]

It is thus suggested that the content of Aflatoxin B_1 in mixed diet should be less than 20 ppb while the content of Aflatoxin M_1 in milk should be less than 0.5 ppb.

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I. GENERAL INFORMATION

FIRST INSTITUTE OF AGROBIOLOGICAL GENETICS, PHYSIOLOGY INTRODUCED

Nanjing XINHUA RIBAO in Chinese 22 Sep 82 p 2

[Article: "Institute of Agrobiological Genetics and Physiology--A Brief Introduction"]

[Text] The Institute of Agrobiological Genetics and Physiology of Jiangsu Province was one of the first nine key agricultural research projects of our country. The completion of this project has provided significant conditions for our scientific agricultural research front to strengthen the basic research of applied technology in agrobiological genetics and physiology.

The tasks of Institute of Agrobiological Genetics and Physiology are: To place the main agricultural products as objects of research, apply the principles and methods of genetics and physiology to basic research, exploit new avenues, new techniques to improve varieties and plant breeding, and provide new breeding materials.

In accordance with the developmental needs of agricultural production and scientific research, the Institute has put emphasis, for the near future, on the following researches:

1. Research on genetics. The main objects of research are grain, cotton, and oil-bearing crops. New techniques of breeding, including chromosome process and distant hybridization, will be exploited. New variation materials and new methods will be created for breeding, and relevant genetic patterns will be investigated. In addition, it will create actively conditions in preparation for research on molecular genetics.

2. Research on growth genetics. The research will be mainly on how to use free cells and separated tissues to prodice a wide spectrum of varieties, introduce orthoselection and evaluation techniques, provide new materials necessary for breeding. The research will include variation, evaluation and selection, genetics of rice resistance, as well as techniques of manufacturing of test tubes for breeding horticultural, precious and rare plants.

3. Research on growth physiology. The reserach will be mainly on techniques of regulating and controlling growth. Relevant mechanism will be progressively explored at the level of cytology and molecular biology. In addition, in close coordination with research on high-yield plant breeding techniques, the research will provide relevant physiological bases.

4. Research on photosynthetical physiology. The emphasis is on increasing the crops' utilization capability of light energy, including orthoselecting techniques of non-directional mutation, the evaluation and utilization of mutants of high net photosynthetic ratio, their combined descendants, the technical system of selecting ans screening, by separating the colony, specific photosynthetic ecotypes, and supplying breeding parents. In addition, research will be done on utilization ratio of light energy by crops of different colonies, different levels and different structures, which will provide basis for high-yield crop breeding techniques.

5. Research on physiology of crops' adversity-resistance. The research will be mainly on the physiological effects of adverse circumstances on crops, to provide techniques to fight against diversity and secure stable yields. Research also includes the physiology of crops' adaptation to adverse circumstances, evaluation techniques of adversity-resistance of germ plasm sources.

6. Research on biochemistry. Mostly on demonstration of genetic features of crops and biochemical bases of their disease- and insect-resistance, as well as on relevant biochemical index necessary in breeding.

7. Research on analysis of variety quality, aminly to help the research on cultivation of new, high-yield, fine-quality and healthy varieties (such as selective breeding of new rape varieties with low erucic acid and low sulphoglucoside, or the breeding of new rice and wheat varieties containing high protein, etc.) A research will be progressively launched to formulate indexes for standardization of qualities of products, such as rice, flour, etc.

The successful execution of these research projects set down by the institute will lead to the refinement of varieties and improve breeding techniques. For example, with the success of research on method of cell culturing, the effectiveness of crop cultivation will be greatly increased. In the past, conventional breeding method was used to select plants in croplands after creation of variation. In case of rice, in one mu of field only 20,000 seedlings could be planted. And it could be done only once a year. By using method of cell culturing, one test tube can contain, at one time, 100,000 cells (that is, 100,000 single seedlings), which are equilvalent to the number of seedlings in 5 mu of field. And, we can use, each time, a hundred or a thousand tubes. The work can be carried out in laboratories continuously and all year round. Thus, breeding time will be greatly shortened and the speed greatly intensified. In the past, crop cultivation of adversity-resistance was carried on in the fields. Tremendous manpower was required to inoculate; some of the plants had to be taken to the producing areas to be evaluated and selected. If test tubes are used, inoculation can be carried out on culture media, and selection can be done by adding certain elements in the culture media. Cells with resistance will subsist and become seedlings, while cells without resistance will die and be eliminated. This process not only saves labor and expenses, but also is effective and achieves quick results.

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ARTICLE VIEWS CONDITIONS FOR HYBRID RICE UTILIZATION

Beijing RENMIN RIBAO in Chinese 4 Nov 82 p 2

[Text] Since the appearance of hybrid rice produced by China's agricultural scientists, its reputation has spread all over the world. It is a giant contribution to China's grain production. In these last 2 years, however, it has been said that "the yield increase vigor of hybrid rice is deteriorating. The peak has passed. There is no more extensive action."

What is the prospect of development of hybrid rice? Is there still a yield increase potential? The reporter visited more than 10 provincial and municipal breeding specialists and those in charge of seed companies. Their answers are optimistic. Based upon a large quantity of convincing information they predicted that in the eighties the yield increase vigor of hybrid rice will contribute even more to the development of grain production.

Due to the fact that hybrid rice has an obvious heterosis, since 1976, its acreage has been rapidly expanding. From 1976 to 1981, the cumulative acreage of hybrid rice in the country reached 330 million mu and the grain production increased 30 billion jin. This is not something other superior breeds of rice can do. The yield increase vigor of hybrid rice is very obvious but this is not saying that there is no problem in this aspect of work. The phenomenon of mixing and the degeneration of hybrid rice seeds is one of the problems. It has been determined that for a 1 percent mixture of seeds, there is a yield reduction of 8-10 percent per mu. If the mix is 15-20 percent, the yield increase merit of hybrid rice is basically canceled out. The merit of hybrid rice and the demerit of mixing and degeneration are two mutually opposing aspects. Under a certain condition, the merit may be turned into a demerit but this type of transformation may be prevented by the work of people. This is not simply a theoretical inference; it is a fact proven by the practice in many areas. The Guangxi College of Agriculture and the Scientific Research Center of Huxi Farm, Jiangsu Province, etc., adopted a series of scientific measures to cause the purity of their hybrid rice seeds to be above 99 percent. Biological mixing of hybrid rice seeds can be controlled with a complete system and a heightened sense of responsibility during the processes of harvesting, sunning, threshing, packaging, and transporting the seeds. Using special tools may also prevent the seeds from mechanical mixing. A large quantity of research studies of scientists have proved that degeneration is an expression of mixing. It is a degeneration of various types of mutant stalks and is not a degeneration of the characteristics of the variety. It is not at all a phenomenon of "reverting to ancestral origin." That is to say if mixing can be avoided, degeneration can be avoided. The yield increase merit of hybrid rice is stable and reliable. In some areas the cost of preparing seeds is high and the yield is low. This is another factor affecting the extension of hybrid rice. It takes more labor and fertilizer to perpare seeds of hybrid rice than ordinary rice so that the households who prepare the seeds cannot obtain a real profit therefore they are not eager in this work. Insufficient supply of seeds will limit the extension of hybrid rice, however. In some areas, the quality of seeds is poor and the yield is low mainly because the work of seed preparation is scattered. When the work is scattered, there is no guarantee of isolation, the form of production is backward, and the management is imperfect. In order to overcome these defects, some areas where hybrid rice is being cultivated establish a system of a seed-preparing county with provincial lands or a system of a seed-preparing commune with provincial lands. For example, in Xuzhou Prefecture of Jiangsu Province, a large and continuous piece of land is used to prepare seeds and the unit yield is 32-56 percent higher than that of scattered seed preparation. In 1981, the national seed preparation averaged nearly 100 jin/mu, to reduce the rate of seed preparation versus grain cultivation from 1 : 12 or 1 : 15 to 1 : 10. This result greatly enhances the reputation of hybrid rice. These seeds have become the good seeds in which the farmers have faith. Some farmers walked 100 li to buy hybrid rice seeds. When a seed company sells hybrid rice seeds, it is always jammed with people.

The third problem in the extension of hybrid rice is the positive feeling of the farmers in using hybrid seeds. The concerns of the farmers in this respect are mainly the following: (1) They have been ripped off by misguidance before and are afraid of hybrid rice being unreliable; (2) Cultivating hybrid rice requires a high level technology and they are afraid that they will not be able to do it themselves. These types of worries cannot be removed by forcible commands. It would not do either simply to rely upon word of mouth. The only way is to help them resolve technical difficulties through demonstrations to induce the farmers to cultivate the hybrid rice. There are 2 production teams in Xiangtan, Hunan Province that did not use hybrid rice regardless of repeated requests by their superiors. The county seed company finally signed contracts with them for experimental cultivation. The production teams provided the land and the labor and the seed company provided seeds and technical guidance. The seed company would take 15 percent of all surplus yield and if there was a yield reduction, the company would pay all of it. In that year's experimental cultivation the yield was 800 jin/mu, 200 jin higher than that of ordinary rice. The farmers were thus convinced. In the following year, there was no need of mobilization, the farmers voluntarily cultivated hybrid rice in an acreage amounting to 90 percent of the total paddies.

Of course, after the farmers become positive about it, the attitude of scientific caution remains necessary in extending hybrid rice over large areas. It is necessary to go through experimentation to extend it step-by-step and absolutely not to be in a hurry to extend it all at once. The successful creation of hybrid rice is an important revolution in rice culture. In seed preparation, cultivation and management, everything is a new process.

Many links are involved which must be tightly put together. Some areas have a shortfall of technical capability. If the traditional cultivation method is used to crop hybrid rice, the effort will be spent without gaining a yield increase. For this reason, these areas should train a technical staff core to establish a specialized technical team quickly, and to popularize the knowledge of scientific farming. This is an urgent task, at present, in extending hybrid rice.

Presently, there are not yet many groups of hybrid rice in China. This is also an important reason for hybrid rice not being further extended over large areas. The few available groupings cannot adapt to China's vast territory. Between the south and the north, the temperature, the water, the soil, and the daylight conditions are very different. It requires a spirit of national cooperation to break through these barriers within a short period of time to produce a large number of new groupings with high heterosis, heat and cold tolerance and resistance, disease and pest resistance, and early maturity characteristics.

China is in a leadership position of the world in cultivating hybrid rice. If leadership is strengthened and some concrete problems are understood, acknowledged, emphasized, and resolved, suitable measures may be adopted to allow this bright star of the green kingdom to give forth even greater brilliance.

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CSO: 4007/57

SHORT COMMENTARY ON DEVELOPING RECLAMATION AREAS

Beijing RENMIN RIBAO in Chinese 31 Oct 82 p 2

[Text] It is the agricultural policy developed in the party's 12 proposals that more grains and economic crops should be produced from the limited acreage of cropland and with the total development of forestry, animal husbandry, and fishery, the needs for industrial development and livelihood of the people are to be satisfied. How are state-operated farms going to implement this policy to create a new phase of economic development of agriculture and reclamation? The practice of intensive operation in Dawa Reclamation District of Liaoning Province to raise the economic benefit is an important answer to the question.

Dawa Reclamation District changed its extensive operation to intensive operation to increase its yield of grain per mu and its commercial grain supply 2.1-fold and 4.5-fold respectively over those of 1980, the year of the best harvests for all the farms of the country. The profit per mu was many times higher. The natural conditions of the majority of farms in the country are better than those of Dawa Reclamation District. If all are to practice intensive operation to produce 100 jin/mu more grain, the supply of commercial grain each year may more than double. What a great potential this is!

For the state-operated farms to practice intensive operation, each must start from its own conditions and walk its own road. Presently, many farms have excess manpower, which is growing and at a relatively fast speed. Some farms are burdened by a manpower surplus, on the one hand, and practicing extensive operation, on the other. They are not willing to invest more manpower in fieldwork. The result is vast seeding and little harvest. This situation definitely cannot continue. Practice has proved that with respect to an intensive operation, the farms should start from an increase of labor investment. The production accumulation will increase from the increased harvest. In this manner, less money is needed to reap more benefits. The other important real condition of the farms is their high science and technology capabilities. The nucleus of intensive farming is technological intensiveness. Thus, for the farms to practice intensive operation is to utilize their own science and technology capacities fully to adopt advanced and useful agricultural science and technology wherever it is best suited.

The central purpose of practicing an intensive operation is to raise the economic benefits. It invests more manpower, materials, and adopts more scientific techniques to use the existing cropland, in order to obtain higher yields and higher value products. In order to do this, it is necessary to handle the relationship between input and output scientifically and to proceed with concrete analysis of input and output of every item of the production economy so that a scheme of optimal economic benefit may be selected to reach the goal of a large-scale increase of the economic benefits.

To strive to raise the unit yield by intensive farming to increase the productivity of the land is the best way of increasing the yield and increasing the income for state-operated farms. They should not eye grain production only. They should put more emphasis on comprehensive operation and comprehensive utilization. On the one hand, the limited land should be fully utilized to obtain a high yield of grains and, on the other hand, multiple operations should be developed in a big way to process farm and animal products and to practice comprehensive operations in farming, industry, and commerce so that the value of the products produced from unit area of land may double and multiply to cause the productivity of the land to be several times to several tens of times higher.

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CSO: 4007/57

REQUIREMENTS FOR STRENGTHENING FINANCE IN COMMUNE, BRIGADE ENTERPRISES

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL AFFAIRS] in Chinese No 10, 6 Oct 82 pp 10-15

[Article: "Ministry of Agriculture, Animal Husbandry and Fishery; Ministry of Finance; Agricultural Bank of China; Requirements in Reorganizing and Strengthening Finance Work in Commune and Brigade Enterprises"]

[Text] All provincial, municipal, and autonomous region bureau of commune and brigade enterprises, departments (bureaus) of finance, and agricultural banks:

Based on the spirit of documents No 1 (1982) issued by the CPC Central Committee and No 10 (1982) issued by the State Council, and in order to assist and promote commune and brigade enterprises to further and properly carry out their financial reorganization, strengthen the management of financial affairs, and correctly handle and rectify financial affair problems which arise as a result, the following requirements are presented for the reorganization and strengthening of financial affairs work in commune and brigade enterprises:

I. Must strengthen leadership of commune and brigade enterprises and conscientiously carry out reorganization of financial affairs

In the last few years, the development of commune and brigade enterprises has been very rapid and it has contributed to the development of the national economy, in supporting agricultural production, and in increasing the income of the members. However, because of the poor capability of the cadres, relatively weak foundation work, and inadequacies in the systems of financial affairs management and bookkeeping and accounting, many problems still exist. To correct these problems, at the same time that we promote necessary enterprise readjustment in accordance with the party's principles and policies, requirements of the national economic development, and production, supply, and marketing conditions, we must also conscientiously implement and develop the reorganization work of financial affairs and correct the conditions of management confusion and disorderly accounting.

The major tasks in the reorganization of the financial affairs of the commune and brigade enterprises are to find out the real situation, overcome confusion, perfect the systems, improve management, plug loopholes, increase income and reduce expenditures, straighten out financial and economic disciplines, correct unhealthy trends, and deal a blow to serious criminal economic activities. The basic objective is to improve the economic benefit and promote the healthy development of the commune and brigade enterprises. The purpose of the reorganization of the financial affairs is to improve management and administration and to promote production. It should not adversely affect production. In the overall process, the work of enterprise readjustment and reorganization, the work of strengthening financial affairs and accounting, and efforts to deal a blow to criminal economic activities must be closely united and arranged on an overall basis.

The work of reorganizing the financial affairs of the commune and brigade enterprises is large, involves a wide area, and is heavily political. It must be carried out through unified deployment, step-by-step in stages and with planning, under the unified direction of various levels of the party committee and the people's government, coordinated by related departments, and based on the spirit of related documents of the central government and the State Council.

The financial affairs reorganization is a total tackling of the finance and accounting work of the enterprises. It is also a project for a major improvement of management and administration. Thus, it must be carried out through the method of experience summarization and work improvement. A mass movement is not carried out, but it must follow the mass line in investigation and studies to determine the problems clearly and to solve them properly. Before the financial affairs reorganization of an enterprise is completed, checking and acceptance must be organized. Areas not meeting requirements must be corrected and whatever is lacking must be added. This cannot be merely going through the motions.

II. Conduct overall property accounting

In the work of reorganizing the financial affairs of the commune and brigade enterprises, a clear account on an overall basis must be made of the properties of the enterprise. This includes the entire fixed assets of the enterprise, materials, products, expenses to be allocated, cash, deposits, and various accounts receivable and payable. In the accounting of properties and materials, we must check both goods and accounts, determine clearly quantities actually on hand and shortages, and clearly identify the portion for normal production needs, the amount of excess and overstock, and the amount that is damaged or otherwise not usable because of property changes. The expenses to be allocated should be differentiated between those which are rational and those which are not. The accounts receivable and payable should be clearly identified by customer. They should be clearly separated as accounts for normal settlement, accounts for arbitration, overdue accounts, and accounts requiring further treatment. A detailed list should be made according to units or individuals. Cash shortages, errors, and white slips [of I.O.U.'s in the warehouse must be clearly determined.

Results of investigation should be reviewed and approved by the commune or brigade. Those that should be verified by related upper level departments should be transmitted immediately for verification and approval. Based on the actual figures after review and approval, the enterprise should make the necessary adjustments on the books. After the investigation, the accounts must tally with the facts. Problems identified from the investigation should be handled according to the document No 10 (1982) issued by the State Council, and the finance and accounting system for commune-operated enterprises and its supplemental regulations established by the Ministry of Agriculture and Ministry of Finance. Problems of a special nature should be referred to the enterprise management department and finance department in the province, municipality, or autonomous region for resolution according to the spirit of related documents of the central government and the State Council. The designed method of handling should be transmitted to the provincial, municipal, or autonomous region people's government for approval before implementation.

The reorganization work must also be based on the concrete conditions of the individual enterprise and its prominent points. In general, emphasis should be placed on solving such problems as serious overstocking of materials and products, excessively huge credits and liabilities, and confusion in cash management. Measures should be adopted to employ unused materials and active steps should be taken to manage surplus and unneeded materials. For overstocked products, on the one hand, outlets should be expanded, avenues increased, and sales actively pursued. On the other hand, production plans should be rationally adjusted, output should be controlled, and quality should be improved to avoid additional overstocks. For credits from banks and trusts which are due or overdue and various moneys that should be paid, a payment plan should be prepared and an active effort should be made for their payment or return. Money that should be paid should be quickly received. A time limit should be set for money owed by individuals, and leaders and cadres at various levels should take the lead to return money owed. For units or individuals who owe relatively large sums of money and who are not making a conscientious effort to pay back, the enterprise has the authority to collect compensation fees based on the interest rate of bank loans. Formal reviews and transfer of account procedures should be carried out to take care of the "white slips" in place of cash in the warehouse. At the same time, efforts should be made to get the moneys back. In the future, no one will be allowed to approve these slips and draw cash without going through the specified procedures. The use of "white slips" in place of cash for payment will not be permitted.

III. Control capital construction and strictly enforce review and approval procedures

The capital construction of commune and brigade enterprises includes procurement for expansion, reconstruction, excavation, innovation, and transformation in order to have fixed assets. The management of all these projects should be strengthened. They should be strictly controlled according to the spirit of the State Council document No 77 (1981) and reviewed and approved according to established procedures.

To develop the production of commune and brigade enterprises, we should first see if it can be done through the development of potential, innovation, and reconstruction of the existing enterprise. Capital construction should not be planned whenever problems can be solved by developing the potentials of existing facilities. If capital construction must be planned and implemented, there should be a significant amount of self-developed funds, the principal of acting according to one's capability must be insisted upon, and every effort should be made to achieve savings in investment and rapid results. Generally, new projects should not be started where a shortage of investment funds still exist for a similar project started in the past, where the sources of investment fund are not firmly arranged, and where circulating funds are not adequate. To carry out capital construction through the indiscriminate charging of costs, diversion of circulating funds, or indiscriminate transfer and borrowing of resources is not permitted.

All provincial, municipal, and autonomous region management departments and finance departments should develop methods to control capital construction by the commune and brigade enterprises based on the principle of different levels of control for different businesses and different size operations. The developed methods are to be reported to the provincial, municipal, or autonomous region people's government for approval before implementation. The practice of taking action first and reporting later or going one's own way is strictly forbidden. For capital construction started without the required reporting and approval, finance will not arrange supporting funds and banks and trusts will not provide any credits or start an account for the purpose of final accounting. Furthermore, the responsibility for the action should be pursued and dealt with.

Existing capital construction projects should be put in order. They should be reevaluated. Projects which do not meet the policy of adjustment and those which are in the "fishing" category should be stopped, changed, or slowed down. For projects which have been completed and have started production but had not gone through examination and acceptance, should go through the process. For projects which have exceeded their planned construction time, the reason for the delay should be determined and remedial measures should be presented.

IV. Properly handle financial work for closed, suspended, merged, and transferred enterprises

During the period of readjustment and reorganization, some of the commune and brigade enterprises were closed, suspended, merged, or transferred. Based on their individual and varying conditions, the clearing of properties and transfer work for these enterprises must be properly carried out to avoid losses and wastes.

The properties and materials of closed and suspended enterprises must be thoroughly checked out and a detailed inventory must be compiled. Special persons must be assigned for their safekeeping and handling. These properties and materials must not be transferred privately or used for other purposes. Their seizure for private use by any units or individuals is strictly forbidden. In case of violation, economic responsibilities and legal responsibilities should be pursued.

The credits and liabilities of closed and suspended enterprises, including loans to be paid back and taxes and finance circulating funds, should be cleared up within a s et time limit. They should be actively collected or repaid. If the cleared up receipts of a closed or suspended enterprises are insufficient to cover its liabilities, the repayment to cover the deficit is the responsibility of the commune and brigade that the enterprise is subordinate to.

For those merged or transferred enterprises which are released to brigades or production teams according to the principle of mutual economic benefit, the transfer of financial affairs and loans must be properly processed. For those which are merged or jointly operated with other enterprises, a contract must be signed and the work of computation of shares and bookkeeping must be properly carried out. For enterprises which need to change their production, the original facilities and materials must be fully utilized and the funds needed for the shift of production are to be actively raised and arranged on the foundation of developing the internal potentials of the enterprise.

The land occupied by closed down and suspended enterprises should be cleaned up and returned to the production teams as soon as possible. Before the processing of closed down, suspended, merged, and transferred enterprises is finalized, the original enterprise responsible person and the finance and accounting responsible person have the economic responsibility for the security of all the properties and materials of the enterprise and for clearing up its credits and liabilities. At the time this clearing up process is finalized, they must prepare a special report which, along with related documents, file materials, account reports, etc. are to be turned over to the commune or brigade in good order for review and acceptance. Only then are their responsibilities completed.

V. Adjust profit distribution relationship and strengthen profit utilization control.

In the distribution of profits of commune and brigade enterprises, the major problem at present is the adjustment of the relationship between the commune and brigade and the production team and commune members and the increase of actual economic benefits for the production team and commune members.
Another important problem is the adjustment of the relationship between the commune and brigade and the enterprise and the expansion of the self-determination authorities of the enterprise. The ratio of profit distribution of commune and brigade and the enterprise and the expansion of the self-determination authorities of the enterprise. The ratio of profit distribution of commune and brigade enterprises should be rationally adjusted based on the existing foundation, the principle of giving consideration to the interests of the state, the collective body, and the individual, and the spirit of controlling investment for capital construction, enriching the circulating fund of the enterprise, supporting agricultural production, and gradually raising direct distribution to the commune members. In order to guarantee and expand the self-determination authority of the enterprise, the practice of percentage retention of profits by the enterprise must be implemented and this percentage figure must be increased appropriately. Because of the drastic differences in the level of development of commune and brigade enterprises and the level of income of the commune members, the adjustment of the profit distribution ratio should be determined individually according to local conditions and should not be treated all in the same manner.

For the purpose of strengthening the control of profit utilization, the procedure for transmitting profits upwards and the limitations of profit utilization must be based strictly on those established by the higher level. Without approval, they cannot be changed or expanded by the commune and brigade enterprises.

Commune and brigade enterprises must transmit profits to the communes and brigades according to specified time frame and ratio (or fixed amount). The communes and brigades must not secure profits from the enterprises outside the specified time frame or beyond the specified ratio (or fixed amount). No unit or individual may use any reason to transfer for other uses the profits, funds, and products of an enterprise.

VI. Strictly enforce financial and economic discipline and correct unhealthy trends

The strengthening of financial and economic discipline and the correction of unhealthy trends are essential measures in the adjustment and reorganization of commune and brigade enterprises. They are also important aspects in the reorganization of financial affairs. The propaganda and education on obeying disciplines and laws and on system implemention must be conducted for the cadres and enterprise personnel. All activities of violating financial and economic disciplines must be forcefully stopped.

The commune and brigade enterprises must pay taxes according to tax laws and regulations. Stealing taxes, evading taxes, and delaying and owing taxes are not permitted. Operating funds must be raised and arranged according to regulations specified under the financial system. They cannot be diverted indiscriminately from within the enterprises or from related units. Responsibilities must be carried out and economic relationships handled according to signed economic contracts. Extravagance and waste, entertaining guests, and giving gifts must be opposed. The drawing of "social expenses" and other variations of violating financial and economic activities are to be prevented. The wage and award systems established by the commune member representatives meeting or shareholders meeting in accordance with state regulations and approval must be carried out. The concoction of pretexts and indiscriminate distribution of awards outside specified conditions of the system is not permitted. The borrowing, trial use, or other forms of making use of funds and materials of collective organizations is not permitted.

Cadres and enterprise personnel violating financial and economic and disciplines should be dealt with seriously. Light offenses and first offenders are to be handled with criticism and education. Disciplinary actions should be taken against serious offenses and repeat offenders, in addition to recovering the funds and materials unlawfully taken. We must struggle against such unlawful acts as embezzling properties, graft and stealing, bribery, accepting bribes, profiteering, and smuggling or selling smuggled goods. Persons engaged in serious criminal activities should be punished by judicial organizations according to the law.

VII. Establish and perfect finance and accounting systems and strengthen finance and accounting personnel

During the checking and reorganization, the commune and brigade enterprises should conduct an investigation on the establishment of the finance and accounting systems and their implementation. Primarily, a clear check should be made on whether or not systems should be established, whether or not they meet the requirements of the state, and what problems still exist in the areas of strengthening management and administration and improving economic benefits. Commune and brigade enterprises should, on the basis of the results of the investigation, establish a plan so that the finance and accounting systems are strengthened and perfected as quickly as possible to develop their management and supervision effects.

Systems of working must be specified and normal financial affairs and accounting procedures must be established. The foundation work of original recordkeeping, measuring and calculating, receiving and issuing materials, and quota management is to be strengthened. The basic systems of capital construction reporting and approval, money management, review and approval of expenditures, distribution and utilization of profits, tabulated bookkeeping, and cost accounting are to be established and perfected, and their thorough implementation must be enforced.

The commune and brigade enterprises should fully develop the supervisory effect of financial affairs and accounting. Through the review and approval of accounting vouchers, examination of financial receipts and expenditures, and analysis of economic results, loopholes in financial affairs are guarded against, financial and economic disciplines are strictly maintained, and problems are immediately brought to the attention of the leaders and upper levels for review.

Extremely important attention, must be given to the problem of democratic handling of finances. A system of plan review and approval and final accounting, with commune member representatives and enterprise personnel representatives participating should be established, so that the masses can truly be the masters of their finances and participate in the management of financial affairs.

Currently the condition of "one inadequate, two weak, and three unstable" exists among the finance and accounting personnel of commune and brigade enterprises. Effective measures must be adopted to correct this condition as rapidly as possible. Up to now, the commune management departments and the commune and brigade enterprises with relatively large production potentials and requirements for stable development still do not have specialized finance and accounting personnel. These personnel must be made available rapidly based on the spirit of selecting the good and utilizing the able and adopting the methods of adjusting between surplus and shortage, short duration training, and the old bringing along the new.

Relative stability must be guaranteed for the finance and accounting personnel. For the various levels of finance and accounting personnel, their duties and responsibilities must be clearly determined, their authority must be protected, the direction of their ideology and work must be strengthened, and their economic remuneration must be properly solved.

Training for finance and accounting personnel must be strengthened. A systematic training may be carried out on the basis of the requirements of the finance and accounting systems established and published by the Ministry of Agriculture and the Ministry of Finance. It is also possible for the training to be based on developments in the work activities and conducted by business categories and by special subjects. Another method would be to carry out training through on-the-job support and direction by a combination of evaluation and comparison, mutual checking and review, and summarization of lessons from work experiences and, thus, the policy level and work ability of the finance and accounting personnel are continuously improved.

VIII. Develop the supervisory and regulating effects of finance and banking

Through the distribution of funds and management of credits, various levels of finance and banking (including credit associations, other areas are the same) should develop the effects of their supervision and regulation during the adjustment and reorganization of commune and brigade enterprises. Subject to availability of financial resources and funding, necessary support should be provided to enterprises which meet the policy requirements of adjustment and reorganization. Active support should be provided to minority regions, mountain regions, far border regions, and poor regions where the conditions for developing commune and brigade enterprises are available and where good economic benefits may be obtained. For those who engage in blind development, who supplement their circulating funds with profits earned against regulations, divert circulating funds for capital construction, as well as those who do not follow the stipulated procedures in adjustment and reorganization, the finance and banking units must adopt restrictive measures or even discontinue their financial support and refuse to grant loans.

The finance departments together with the management departments must properly manage and use their finance to support the commune and brigade enterprises in their investments and turn around funds. The turn around funds must be recalled on schedule as specified in the contracts in order to speed up the turn around. Attention must also be paid to summarizing experiences and further improving economic benefits.

In extending loans, the banks must conscientiously carry out the principles of the three investigations system (investigation prior to granting, evaluation at time of granting, and checking after granting). The bank must properly control the use of a loan and make sure that it is repaid on time. Efforts must be made to improve the economic benefits of the loan.

The finance and banking units must strengthen the supervision and periodically check the commune and brigade enterprises in their conducts related to finance and economic disciplines, pricing policies, payment of taxes, and the use and return of loans and turn around funds. They must continue to assist the enterprises in carrying out their financial affairs reorganization, establishing and perfecting their finance and accounting systems, training of finance and accounting personnel, and strengthening accounting work. They must properly conduct investigation and studies, reflect new conditions and new problems that may emerge during the adjustment and reorganization, present ideas for solution, and push forward the healthy development of the commune and brigade enterprises.

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PROCUREMENT, SALES OF AGRICULTURAL, SIDELINE PRODUCTS DURING BRISK SEASON URGED

Shijiazhuang HEBEI RIBAO in Chinese 21 Oct 82 p 2

[Article by Hung Chen [7703 2525]: "Properly Carry Out the Procurement and Sales Work of Agricultural and Sideline Products During the Brisk Season"]

[Text] In his report to the CPC 12th National Congress, Comrade Hu Yaobang clearly pointed out: "The quality of commercial work directly affects industrial and agricultural production and people's daily living.... On the foundation of a complete understanding of the conditions and conscientious summarization of experiences, we must concretely improve commercial work and vigorously dredge, widen and increase the waterways of circulation so that goods will have their free circulation, materials will have their use, and commerce will fully develop its influences in pushing forward production, leading production, safeguarding supplies, and promote economic prosperity." Currently, to welcome the arrival of the market's brisk season, the proper development of the work of procurement and sales of agricultural and sideline products is to properly carry out commercial work in accordance with the directive spirit of Comrade Hu Yaobang in order to meet the needs of economic development.

(I)

Because of the firm implementation of the various policies for the rural areas, correction of the "left" ideology, implementation of various forms of production responsibility systems, and the fact that the production positiveness of the large numbers of peasants have been greatly aroused since the party's Third Plenary Session, and the relatively good weather conditions this year, an overall abundant harvest has been achieved in our province. Multiple enterprises have also had some very important developments. A rapid development has been achieved especially in the breeding industry with the appearance of many specialized households. We can say that the entire rural area is full of vitality and a great situation is just beginning to unfold.

The development of the agricultural and sideline industries has greatly enriched the brisk season market this year. First, the peasants have asked to sell greater quantities of agricultural and sideline products. Now they are concerned that they will not be able to sell the things they have produced. At the same time, because of the changes in the format of selling to the state, which is now largely on the household by household basis, the work of commercial procurement has greatly increased. Faced with this requirement, the staff and workers of the commercial departments must actively solve the possible emerging problems of "difficult to sell corn," "difficult to sell peanuts," "difficult to sell fruit," "difficult to sell pharmaceutical materials," "difficult to sell pigs," and "difficult to turn over cotton." At the same time, after the peasants have sold their products, they will want to buy needed peasants have sold their products, they will want to buy needed industrial products in return, such as production materials, construction materials, and daily consumer products. We must do everything possible to satisfy the needs of the peasants. We must investigate the basic market conditions and the quantities and specifications of the products that the peasants want to sell. How many industrial products will the peasants need, what kind and what quality? How much of these have been prepared for sale? We must have clear answers to these questions, so that the supply and sales work for this year's brisk season market will be properly carried out.

(II)

The peasants have produced for us large quantities of agricultural, sideline, and special native products. This is the result of their hard labor. The commercial departments should properly procure these products. If we do not do this work well and the peasants cannot sell what they have produced the products are left in their hands or even become spoiled, the productive enthusiasm of the peasants will be seriously damaged, which will be harmful to the continued development of the rural area. We should also understand that although the production of the peasants has increased it does not mean that our social needs are satisfied. It does not mean that our demands for agricultural, sideline, and special native products have increased. Actually, our demands are still not enough. Our commercial departments must make the maximum effort to procure all the products the peasants want to sell and in turn push the marketing of these products. The commercial departments must procure the products under the state's centralized procurement and assigned procurement plan. Vigorous efforts must be made to push the sale of the Class 2 products and the large quantities of Class 3 products through many different channels after the assigned procurement tasks have been completed (contracts between agriculture and commerce for key Class 3 products must be carried out). The state-operated commercial enterprises and supply and sales cooperatives must proceed with organizing work, direct the production of the peasants and the sales promotion work, direct the production of the peasants and the sales promotion work, direct the production of the peasants and the sales promotion work, and cannot allow the production results of the peasants to incur losses. One is to persist with the contracting for grains and oil without change and also to persist with making up the shortages from the abundant. The grain departments must open up, not limit, procurement. Wherever there is a discontinuation or limitation on procurement, the responsibility for such an action must be pursued. This must be announced to the masses so that they can supervise the implementation. At the time of procurement, the livelihood of the people must be properly arranged. After the state's procurement and excess procurement tasks are completed, negotiated procurement must be actively developed. Two is that in cotton procurement every effort must be made to procure all the cotton delivered to the cotton station on the same day. A schedule must be arranged to guarantee procurement.

Three is that there should be procurement methods for other agricultural, sideline, and special native products to guarantee their procurement and further sales. Fouris to increase procurement network locations and train working personnel. This means not only training in techniques but also training in ideology. Civilized and courteous trading is to be achieved.

(III)

The rural area is the principal part of the market. With the continued development of the rural product economy, the procurement and sales tasks of agricultural and sideline products must become greater each day. At the same time, with the increase of economic income by the peasants, their requirements for production and daily living materials will also continue to increase and the supply task for industrial products will also become greater. Thus, we must change from the past of laying particular stress on the urban market and neglecting the rural market to not only paying attention to the urban market but also giving greater attention to the rural market. When rural procurement and sales activities are properly developed, a new prospect will emerge in the entire commercial work. We must thoroughly fulfill the "Decision" of the State Council. The principal method of extending the wholesale network is by joint operation between the state and the cooperatives. Other methods must be based on local conditions. No matter what method we adopt, we must pay attention to rational distribution and think in terms of economic benefit. It must be based on the direction of flow of the goods. The establishment of network locations should not be based on administrative divisions. The reorganization of the rural shuangdaidian [7175 0108 1648] is a requirement based on the objective conditions and the trend of the time. However, the masses must be consulted on whether or not to make the change. The overall principle is to facilitate the movement of industrial products to the rural areas and to adopt many methods in further expanding the sales activities of industrial products in the rural area. The sales troops already organized must be stabilized and expanded. Exchange meetings and sales exhibits must be widely organized. Mobile sales to the rural areas must be vigorously organized in order that the masses may come face to face with the goods. For overstocked goods in the warehouses, such flexible methods as moving to another warehouse for commissioned sales, increasing discount rates, and delayed payment must be continued. Retail units should also be encouraged to actively promote the sales of these goods. For some stagnant goods, consideration may also be given for the buyer to enjoy the lower wholesale price after a certain quantity has been purchased in order to encourage greater sales.

In order to properly move industrial products down to the rural areas, various areas should organize mobile delivery at specified locations and specified times. Combining fixed location wholesale with mobile delivery is a good method and must be vigorously promoted.

The waterways for the circulation of goods must be further dredged open, widened, and increased. The first thing is to vigorously dredge open the main waterway of state-operated commercial enterprises so that we will truly achieve the goal that goods will have their free circulation and materials will have their use. At the same time, based on market demands, the development of collective commercial enterprises and individual enterprises must also be continued, especially in the small general merchandise trade and the repair and service trades. After the communes and brigades have completed their unified procurement, assigned procurement, and state procurement contracts, they may also sell the remaining products themselves. Some of these products which cannot be sold locally may also be sold to distant places.

(IV)

For a long time, we have been accustomed only to procurement, transfer, and supply according to plans. We have not paid attention to investigations and studies, we have not understood the market information very well, and we have not organized the sources of supply on a timely basis according to changes in market supply and demand. Thus, it is not possible to satisfy the production and daily living requirements of the masses to the maximum extent. This kind of supply system ideology and style must be changed. We must learn to do business and learn civilized trading. We must strengthen the market evaluation and forecast work and properly gather market information in order to provide information to the industry on a timely basis. Both industry and commerce must improve their sensitivity and ability to react to market changes. This is one of the basic conditions in organizing the production and circulation of commercial goods and the market supply. For this reason, the various levels of leadership must put in hard work and exert great efforts to properly carry out this work.

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CANGZHOU MAKES FIVE BREAKTHROUGHS IN WHEAT PLANTING

Shijiazhuang HEBEI RIBAO in Chinese 21 Oct 82 p 1

[Article: "Plant to New Level; Create New Prospects; Wheat Planting in the Cangzhou Region Makes Five Breakthroughs This Autumn"]

[Text] The Cangzhou region treated wheat planting as the key practical action in fulfilling the spirit of the CPC 12th National Congress and in creating new agricultural breakthroughs. The rate of planting was faster than last year and quality was better than previous years. By 16 October the task of planting 5.7 million mu of wheat in the entire region had been basically completed.

There were five breakthroughs in the quality of wheat planting this autumn in the Cangzhou region. The first was the large area of moisture addition, with an increase of area of 6 percent over last year and basically achieving the condition of planting with adequate moisture. The second was more application of fertilizers, especially the combination application of nitrogen and phosphorous fertilizers which was more than any previous year. Based on an investigation of the five counties of Mengcun, Nanpi, Wuqiao, Jiaohe, and Dongguang alone, the areas with combination application of nitrogen and phosphorous fertilizers represented 66 percent of the total planting area. The third was better land preparation. Generally, the three ploughings and four rakings were carried out, achieving the condition of soft at the top and firm at the bottom which has not been accomplished in many years. The fourth was the planting of more wheat which was suitable for the season. A total of 1.86 million mu of Bailu wheat were planted in the region this autumn, an increase of 750,000 mu over last year. The acreage of Qiufen wheat was 2.96 million mu, an increase of 500,000 mu over last year. The fifth was scientific planting. This was particularly true with dry planting of alkali land wheat, which employed technical innovations in cultivation. In the 25,000 mu of dry planting of alkali land wheat in the Dongguang County, the new technique of "four changes and one early" cultivation was promoted.

New breakthroughs in the quality of wheat planting were achieved this autumn in the Cangzhou region because of the conscientious and thorough practice of the spirit of the CPC 12th National Congress by the various levels of party and government leadership organizations. More than 7,000 regional, county, and commune cadres in the region personally went to the basic levels to publicize the fulfillment of the spirit of the 12th National Congress and assist the commune members in wheat planting. For the more than 83,000 households in the region having difficulty planting wheat, the "five assists and one contract" was carried out. These were assists in funds, labor, livestock, well tools, and techniques. The cadres "contracted" for wheat planting for households having difficulties. Activities of mutual assistance were also implemented among the commune members and the communist style was greatly developed. At the same time, technical service work was vigorously developed. More than 400 technical cadres were released from regular work to travel to the rural areas. They took hold of over 43,000 model scientific and technical households, assisted the communes and brigades in establishing over 2,600 technical study classes, developed technical consulting service work in the fields, and pushed forward scientific wheat planting.

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LARGE SALES OF CHEMICAL FERTILIZERS OUTSIDE PROVINCE QUESTIONED

Shijiazhuang HEBEI RIBAO in Chinese 21 Oct 82 p 2

[Article by staff: "Why Are Large Quantities of Our Province's Chemical Fertilizers Sold to the Outside? The Sale of Large Quantities of Hebei's Chemical Fertilizers To Outside the Province Has Increased the Contradiction Between Supply and Demand; Recommend That This Problem Be Solved Quickly"]

[Text] The sales of Hebei's chemical fertilizers have gradually increased in recent years. In 1965, these sales amounted to 271,000 tons but increased to 957,000 tons in 1970, an increase of 340 percent. In 1975, the sales totaled 1,344,000 tons, an increase of 40 percent over 1970. By 1980, the sales reached 2.93 million tons, an increase of 120 percent over 1975. In 1981, the sales totaled 2,633,000 tons, which represented a decrease of 11 percent over 1980.

Based on investigative analysis by related departments, the demand for chemical fertilizers in our province in the next few years will be: 4.19 million tons in 1982, 4.64 million tons in 1983, 4.83 million tons in 1984, and 5.04 million tons in 1985.

In addition to the state's unified distribution and allocation to outside the province, our current production capacity basically can meet the demands of our agricultural production. However, industry and commercial business are shipping large quantities out of the province, causing a great decrease in the available supply of chemical fertilizers in the province.

One reason for the large shipments of chemical fertilizers out of the province is the pricing problem. Comparing the higher price for sales outside the province (167 to 170 yuan for each ton of small nitrogen fertilizer leaving the factory with the lower price for sales in the province (150 yuan each ton leaving the factory), there is a difference of 20 some yuan per ton. Consequently, for the sake of profits as well as certain requirements in operations, the plants and commercial departments are shipping large quantities out of the province. Based on statistics, in 1981 the industry sold 460,000 tons of ammonium carbonate and 230,000 tons of phosphate fertilizers outside the province while the commercial businesses sold 230,000 tons of nitrogenous fertilizers and 33,000 tons of phosphate fertiliers, a total of 950,000 tons. Despite the strengthening of chemical fertilizer control, the industry still sold 230,000 tons outside the province and the commercial businesses sold 170,000 tons, a total of 400,000 tons from January to July of this year. It is estimated that by the end of the year the total sales outside the province will not be below 500,000 tons.

Naturally, if there is a surplus of chemical fertilizers in our province, appropriate support of other provinces is acceptable. However, that is not the situation at present. There is still a supply gap in our province. Based on the statistics for the supply and sales cooperatives system alone, 930,000 tons of chemical fertilizers were shipped into our province from the outside last year and 558,000 tons from January to August this year. On one hand, we are blindly making shipments out of the province and on the other, we are bringing in chemical fertilizers from the outside. This is wasting the state's manpower and materials.

Another reason for the large sales of chemical fertilizers outside the province is our small warehouse capacity and low storage capabilities. The sale of chemical fertilizers is highly seasonal. Basically, the peasants only make purchases when they have to be used. Thus, the storage of the commercial departments is greatly increased, but their storage capacities are very small. During the slack season, the chemical fertilizer storage is as much as 1 million tons. This would require 1 million square meters of warehouse space. But the total space of the entire production system in the province is only 440,000 square meters. The space specially for chemical fertilizers is even more limited. Because of this tight warehouse situation, a lot of the chemical fertilizers have to be stored in the open, resulting in very large damages during rainy weather and affecting the enthusiasm of the commercial departments in the procurement of chemical fertilizers during the slack season.

The above problem increases the contradiction between chemical fertilizer supply and demand during the brisk season. The black market is rampant in some places. For instance, at the Dasong County Fair in Li County, the market for urea during the brisk season is as high as 800 yuan a ton greatly exceeding the specified price of the state. The profiteering elements are making huge fortunes, and the peasant masses have some strong opinions.

To solve this problem, we suggest:

(1) Industry and commerce should both be concerned with the overall situation and the supply and sales of chemical fertilizers should be self-sufficient in our own province. The price of small nitrogenous fertilizers in our province should be rationally adjusted, so that both industry and commerce will realize national operating profits. Outside the fulfillment of the state distribution and transfer tasks, administrative measures should be adopted so that basically there will not be any shipments of chemical fertilizers out of the province. At the same time, the over rigid price control in the province of chemical fertilizers produced outside the plan should be adjusted. Commerce should contract for the sale of all the chemical fertilizers produced by industry. Sales by the industry itself should be eliminated.

(2) The construction of special warehouses for chemical fertilizers should be strengthened. We suggest that the various planning departments place the

construction of chemical fertilizer warehouses in their plans. The supply and sales departments should also actively raise funds, so that warehouses meeting storage needs are gradually constructed within 2 to 3 years. For the moment, a seasonal price differential may also be considered for the small nitrogenous fertilizers, with higher prices during the brisk season and lower prices during the slack season with the overall accounting for the year basically equivalent to the list price. This would motivate the enthusiasm of the masses to store chemical fertilizers.

(3) Market management should be strengthened. We suggest that required management systems be established by the industrial and commercial management departments. Profiteering and speculation and resale of chemical fertilizers at high prices should be strictly banned.

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SIX ANIMAL HUSBANDRY PRODUCTION BASES SET UP

Beijing RENMIN RIBAO in Chinese 4 Oct 82 p 1

[Article: "State, Collectives and Individuals Team Up, Give Strong Support to Specialized and Key Project Households; Heilongjiang Province Sets Up Six Animal Husbandry Production Bases"]

[Text] Heilongjiang Province, making use of the advantages of its rich natural resources and in line with local conditions for raising cows, milk goats, cattle, sheep, medium-wool sheep, market hogs and chickens, has set up six different types of animal husbandry production bases. Most of the cities and counties are engaged in animal husbandry, though with different emphasis. The restructuring and building of such bases over the past 2 years have brought along the development of animal husbandry industry throughout the province.

Stress on building animal husbandry production bases was a significant measure adopted by Heilongjiang Province to carry out strategic changes in the agricultural development. The natural conditions of the province are fields intersected by five mountains, a grassland and a river. There are more than 76 million mu of grasslands, grass hills and hillside fields. Songnen Prairie in the west is abundant in alkaline-rich meadows; while Sanjiang Plain in the east grows luxuriant small-leafed camphoric forage grass. Various counties have numbers of scattered grasslands. Each year the province produces more than 500 million jin of bran, 800 million jin of bean cake, 4.4 billion jin of sugar beet. All these help tremendously the development of the animal husbandry industry. In the past, the distribution of agriculture was irrational, the emphasis was one-sidedly placed on grain, and the emphasis, within the industry of animal husbandry, was on "priority on pigs." Breeding of cattle, sheep and other plant-eating animals was neglected, thus animal husbandry slowly developed. Since 1979, by progressively readjusting the distribution of agriculture and the internal structure of the animal husbandry industry, we have achieved noticeable results. As of now, the total number of sheep and poultry in the province has nearly doubled, compared with that of 1978.

The province has given special attention to developing dairy cattle production that the masses are accustomed to and thatis of comparatively high economic value. Three cities, such as Harbin and Qiqihar along the railway line, and four counties, such as Shuangcheng, have been designated as dairy cattle production bases, which will promote the whole dairy cattle industry in the province. Since 1979, the number of cattle in the provincial inventory has been consistently increasing at a 20 percent yearly rate. To date, there are 115,000 cows, 85.5 percent more than that in 1978. Last year the province produced a total of 168,000 tons of fresh milk, 73.4 percent more than that in 1978.

In the production of animal husbandry, Heilongjiang Province has conscientiously implemented the Party Central Committee's policy on animal husbandry development, corrected the tendency of stressing the development of state-woned and collective animal husbandry bases and neglecting the ones owned by the vast peasant and herdsman households. We have succeeded in opening simultaneously "the three doors" of state-owned, collective and individual enterprises, fully mobilizing thousands of agricultural households to participate actively in animal husbandry, and forcefully supporting specialized and major project households.

As of now, 270,000 livestock-raising specialized and key project households have been set up throughout the province. In addition, there are 175 centralized stations breeding chickens, cows and pigs. These stations have become an important strength in leading the vast peasants and herdsmen to a scientific animal husbandry industry.

6248
CSO: 4007/16

GREATLY IMPROVED ECONOMIC SITUATION ON STATE FARMS REPORTED

Harbin HEILONGJIANG RIBAO in Chinese 17 Aug 82 p 1

[Article: "New Development of Province's State Farm and Land Reclamation Areas Following 3 Years of Readjustment and Restructuring; Structure of Agriculture Increasingly Rational Day by Day; Marked Rise in Economic Effectiveness; Rapid Development of Economic Diversification; and General Increase in Staff and Worker Earnings"]

[Test] Following the Third Plenary Session of the 11th Party Central Committee, and as a result of 3 years of readjustment and restructuring, certain changes have taken place in the single form of ownership system, the single kind of occupation, the single form of wage distribution system, and the single avenue of employment in Heilongjiang's state farm and land reclamation areas. Since the farm work conference held at the beginning of this year, in particular, greater breakthroughs have occured in work in these regards.

Restructuring of the sole economic form of ownership by all the people has vigorously developed the state-owned economy while actively supporting and developing the collective economy and the individual economy. As of the end of June, the number of collective economic enterprises in the state farm and land reclamation area had grown to more than 1,650, and more than 111,300 dependents and sons and daughters of staff and workers had found places in them. The number of individual households engaged in production of commodities numbered more than 3,000, and the number of industrial and commercial households had also grown to 965. The state farm and land reclamation area had also transferred 2,156 cadres to bring collective enterprises up to strength in a strengthening of the leadership of the collective economy in all its aspects.

Restructuring of the farming system's sole production of grain and beans for active development of economic diversification while positively not relaxing grain production. This year the state farm and land reclamation area's economic crop area amounted to 550,000 mu, a 34 percent increase over last year. The cattle, sheep and goat, poultry, and fish breeding industries also grew by 25 percent over last year. Growing of wood fungus and mushrooms increased by 30 percent over last year. The building of 19 production bases got underway for mountain grapes, hops, black currants, and Chinese medicinal materials. The output value of this year's economic diversification has been estimated at 250 million yuan, an increase to 14 percent from the 6.8 percent ratio to gross output value of 1979.

Restructuring of the single fixed wage system form of distribution for active promotion of various forms of production systems of responsibility. This year, except for a small number of schools and hospitals, the 97 agricultural and livestock farms in the state farm and land reclamation system area, from farm organizations to grassroots level production units, will universally institute a system of basic wages plus fluctuating wages, and the linking of output to the calculation of remuneration in various forms of production responsibility systems for the arousal of the enthusiasm of both enterprises and workers.

Restructuring of the single avenue of employment, with labor departments recommending employment, voluntary organization of employment, and finding employment by oneself in a three-way program of employment to broaden employment avenues.

Up until 1979, the state farm and land reclamation area operated at a loss for more than 10 years, and economic diversification fluctuated from 6 to 10 percent of gross output value. Changes in the "four soles" economic situation has meant that for the past 3 years, except for last year when serious disasters entailed operating losses, profits rose for the 2 consecutive years of 1979 and 1980, the total figure amounting to 561 million yuan. This year the ratio of value from economic diversification to total output value broke 10 percent, and in one farm management bureau and two farms it reached or exceeded 20 percent. Because of the greater number of employed sons and daughters, increase in income from household sideline occupations, and increased bonuses, average per capita income increased from 239 yuan in 1977 to 343 yuan in 1981, a 43.5 percent increase.

9432
CSO: 4007/4

PROGRESS IN AGRICULTURAL PRODUCTION VIEWED

Beijing RENMIN RIBAO in Chinese 29 Oct 82 p 1

> [Text] Editor of XINHUA: For several years, the agricultural development situation in Henan Province has been delightful. The speed of yield increase of Henan and some other provinces shows that China's agricultural production has a very great potential and the prosperous development of rural villages has just got started. Reading the following report from Henan should help strengthen people's confidence in creating a new breakthrough in agriculture.

Since the Third Plenary Session of the 11th Party Congress, the rural villages of Henan Province have seriously implemented the various economic policies of the party and practiced various forms of an agricultural production responsibility system. A positive feeling has been aroused among the farming masses. Every year, there have been yield increases in grains, cotton, oil, and tobacco in the entire province. The situation in the rural villages is better and the livelihood of farmers is improving, year after year.

According to the information supplied most recently by the Henan Provincial Bureau of Statistics, the total value of agricultural products of the province in 1981 (calculated in the constant price [yuan value] of 1970) reached 121.3 billion yuan, an increase of 22.8 percent over that of 1978, averaging an annual increase of 7.1 percent. Compared with the average annual increase of 3.4 percent of the 26 years of 1952-78, the increase is more than twice as fast. The average net income of commune members of the province in 1981 reached 215.6 yuan/person, more than doubling that of 1978. With the production development and income increase, the members' consumption of grains, oil, meat, and eggs grew in leaps and their housing conditions obviously improved. Now, the farming masses have left behind the life of poverty of "sweet potato soup and sweet potato bread; no living without sweet potatoes." They are living a rich life of "a house with a tiled roof, eating fine grain, and having money left in the bank." In this province of historically frequent disasters and low production, the influence of leftism has been cleared away since the Third Plenary Session of the 11th Party Congress and the internal structure of agriculture readjusted. While earnestly attending to grain production, diversified operation has been urgently pursued to guarantee yield increases in grain, cotton, oil, and tobacco year after year. According to statistics, the total grain production of the province in 1981 was 46.3 billion jin, an increase of 10.4 percent over that of 1978, averaging an annual increase of 3.3 percent in these 3 years; it has increased faster than the average annual increase of 2.9 percent for the 26 years from 1952 to 1978, to create the highest historical record of total production. On the basis of last year's abundant harvest of summer grains, this year's summer grain production was further increased to reach a total of 22.7 billion jin. Compared with the production of 1978, the total cotton production of the province in 1981 grew 58.4 percent, that of tobacco 29.8 percent, that of rapeseed 1.3-fold. Compared with the rapeseed production of 1981, the production this year was 33.5 percent higher. At the end of 1981, the number of large animals in the stalls all over the province exceeded the highest record in history.

The contribution of Henan Province to the country is becoming greater and greater.

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CSO: 4007/57

PROVINCE PEASANTS' LIVING STANDARD INCREASES

Nanjing XINHUA RIBAO in Chinese 23 Sep 82 p 2

[Article: "Good Policy Brings Good Living; The Life of the Peasants of our Province Has Distinctly Improved"]

[Text] Since the Third Plenary Session of the 11th Party Central Committee, with a series of economic policies of our party put into full effect, our province's agricultural production has achieved considerably rapid development and the peasants' life has shown distinct improvement. The following are the survey statistics of 1,000 commune households' income, by the Provincial Statistical Bureau:

In 1981, the average net income per capita was 258 yuan, 103 yuan more than that of 1979, which was 155 yuan, increasing progressively at an 18.5 percent yearly rate.

The percentage of average net income of over 300 yuan among the surveyed households rose from 5.4 percent in 1978 to 33.3 percent in 1981; while the percentage of average net income of less than 100 yuan dropped from 26.4 percent in 1978 to 1.3 percent in 1981. Compared with 1978, the 198. consumed grain ration per commune members has had, on an average, an increase of 16 jin, consumed cooking oil increased 2 jin, meat 6.1 jin, eggs 1 jin, seafood 1.7 jin, and wine 2.2 jin. The quantity of wool and silk fabric and fine wool purchased has increased respectively 8.2, 6.9, and 2.6 times compared with 1978.

In 1981, in terms of the "four big items," every hundred commune households have, on an average, 41.7 bicycles an increase of 21.7 more compared with 1978; 18.5 sewing machines--9.5 more compared with 1978; 46.1 radios--34 more; and 108.1 watches--57 more than in 1978.

During the 3 years of 1979-1981, 29.6 percent of the surveyed households have built new houses. Since 1981, every family has, on an average, 3.9 rooms, 0.3 room more than in 1978. The living space per capita has reached an average of 11.2 square metre. Of the current housing the space of brick and wood structure has increased to 70.3 percent from 54.7 percent in 1979.

6248
CSO: 4007/16

MARKED INCREASE IN RURAL INCOME REPORTED

Beijing RENMIN RIBAO in Chinese 19 Sep 82 p 2

[Article: "Marked Increase in Rural Jiangsu Average Per Capita Distributed Income; Responsibility Systems Changes High Cost Low Benefit Situation in Agriculture; Province's Collective Distributions in 1981 Averaged 130.39 Yuan Per Capita; Annual Increase in Income Distributed to Commune Members 11 Times Greater Than Average Annual Increases During Past 21 Years"]

[Text] In Jiangsu Province, where agricultural production has developed rapidly yet commune member income has increased but little, in 1981 overall costs in agriculture fell for the first time and net income increased tremendously in a heartening situation. Counties (or municipalities) in the province having average per capita distributions of more than 200 yuan numbered one-fifth of the total, and the number of wealthy production teams with incomes per capita of more than 300 yuan doubled over 1980. Annual increase in income distributed to commune members was 11 times greater than average annual income increases during the past 21 years.

Statistics from departments concerned show that in 1981 average per capita collective distributions amounted to 130.39 yuan, 24.31 yuan more than during the previous year, for a 22 percent increase. Counties (or municipalities) with per capita incomes of more than 200 yuan spurted from the five of the previous year to 16. Wealthy production brigades and production teams in which per capita distributions were more than 300 yuan rose from the previous year's 249 and 2,128 respectively to 682 and 4,311.

The level of agricultural production in Jiangsu Province has always held a leading position nationally. However, owing to failure to give attention to cost accounting and poor administration and management, in the 21 year period from the beginning of cooperativization in 1978 speed of increase in overall agricultural costs greatly exceeded speed of increase in total earnings. During the past 21 years, average per capita peasant income has increased annually by only 2.20 yuan.

After Jiangsu Province conscientiously put into effect the party's various rural economic policies, the not very fast increase in commune member distributed income changed. All prefectures first of all adapted general methods to local situations in a readjustment of crop patterns for grain and economic crops, and comprehensively developed farming, forestry, livestock raising, sideline occupation, and fishery production. By 1981 forestry, livestock raising, sideline occupation and fishery output value already accounted for 44.6 percent, or nearly half, of the province's gross output value from agriculture. In 1981, for the first time the province's gross income from agriculture broke the 11.1 billion mark, which was 1.26 billion yuan or 12.8 percent more than 1980 to create an all-time high. Total agricultural production costs fell for the first time, declining by more than 100 million or 2.5 percent from 1980. Establishment and perfection of production responsibility systems played a key role in the tremendous increase in commune member income. In 1981, more than 71 percent of production teams in the province established "double contracting" [contracting of production and work tasks] responsibility systems linking remuneration to output, and made improvements in agricultural administration and management. Statistics show an 89 million yuan decrease from 1980 in production costs for the province as a whole.

Institution of agricultural production responsibility systems also overcame and reduced the problem of rash spending and subsidies on the part of the collective, gorging on food and drink, and inviting guest and sending gifts at the expense of the collective. Such miscellaneous expenditures fell by 24.6 million yuan in 1981 as compared with 1980 for a 9.9 percent decline.

9432
CSO: 4007/4

PROVINCIAL NOTICE ISSUED ON FALL PLANTING

Jinan DAZHONG RIBAO in Chinese 10 Sep 82 p 2

[Article: "Provincial People's Government Issues Notice on a Further Good Job of Fall Planting. Planting of Wheat in Sufficient Amounts and Well Under the Inspiration of the Spirit of the 12th Party Central Committee"]

[Text] The Provincial People's Government recently issued a notice on doing a further good job of fall planting, which called upon all jurisdictions to arouse the broad masses of cadres and people under inspiration of the spirit of the 12th Party Central Committee to do a solid job of planting wheat in sufficient quantities and well.

The "Notice" required the following:

1. Making sure that planned fall planting areas are planted. The 55 million mu fall planting area that the provincial government has handed down this year was set with readjustments made in the structure of agriculture during the past several years in mind and following study of current actual circumstances in the province as a whole. The planting area assigned each jurisdiction should be fulfilled as figured, and efforts made to exceed the figure. This fall the soil moisture situation is fairly good in most parts of the province. This is beneficial for fulfillment of fall planting plans, and all conditions are at hand for timely planting of more wheat. In Shandong Province where population is large relative to available land, food is a matter of primary importance. Wheat is the province's major grain crop, and the amount of commodity wheat production is large. How good the wheat harvest has an extremely great bearing on fulfillment of the province's grain output plans and state purchase quotas. Today the conflict between supply and demand for grain in the province is pronounced, and use of every available means to achieve a large grain harvest next summer has become an issue of major importance. In order to increase wheat output very greatly, it is necessary, of course, to try to increase yields per unit of area. However, unless a sufficiently large area is planted, this will not work. Reportedly several prefectures (particularly northwestern prefectures of the province where economic crops are concentrated) plan to plant an area far less than that provided for in provincial plans. In all places in which plans have not been well implemented, conscientious efforts should be made to indoctrinate cadres and masses, proceed from the situation as a whole, and make all around arrangements for grain and economic crops keeping all factors in mind.

2. Efforts should be made to improve quality of fall planting. There should be a conscientious summarization of experiences with increased wheat output for many years in the past, a firm grip taken on measures to increase output including water, fertilizer, soil, seeds, and closeness of planting, and efforts made to plant as early as possible. Extremely close attention should be given to preservation of soil moisture, guarding against drought before drought occurs, creating soil moisture when drought occurs, and doing unified planning taking all factors into consideration in harvesting, sowing, and tending the crops, clearing away the stubble of the previous crops and plowing the soil at the same time to insure earliest possible sowing. Every available means should be used to enlarge the irrigated area, superior varieties selected on the basis of adaptation of general methods to local situations, maintain high standards, and strictly require fulfillment of fall planting quotas.

3. More good work in the supply of materials. Railroad and transportation departments should make priority arrangements for the hauling of the chemical fertilizer, pesticides, seeds, and farm machinery and implements required for fall planting. Right now the shortage of diesel fuel is a prominent problem, and the state is currently unable to increase allocation norms. All that can be done is to conserve use of diesel fuel stringently, making sure that it is used only where absolutely necessary. Where tractors are being used for hauling as a business, the practice must be decisively stopped. Wherever some fuel can be squeezed from use by commune and brigade industrial sideline enterprises, it may be used in fall planting. Insofar as possible, an increase in electric power load should be allocated for agriculture to support fall planting in an effort to plant wheat in sufficient quantity and well.

4. Actual leadership of fall planting work should be strengthened. Rural villages are about to enter the extremely busy stage of the three autumn jobs [harvesting, plowing, and sowing]. Opportunities cannot be missed, for the time once gone will never return. In every task, the extremely busy season in farming has to be taken into consideration with unified planning that takes all factors into consideration being done and all-around arrangements being made under leadership of CPC committees. Prefectures, counties, and communes should organize large groups of cadres to go down into the country-side to study the 12 major documents with the masses and do a good job of fall planting. Serious attention should be devoted to the rule of agricultural science and technical personnel to raise the level of scientific farming. Production responsibility systems should be perfected, and contract agreements entered into providing for production, sales, withholdings, rewards, and penalties. Attention should also be given help to the small number of hardship households in planting wheat. In flatland areas along the Huang He and in lake areas, all difficulties should be overcome to plant wheat in sufficient amounts and well so as to buttress the confidence and capacity of the masses to provide for and help themselves by engaging in production.

9432
CSO: 4007/4

AUTUMN PLANTING NEARLY COMPLETED

Jinan DAZHONG RIBAO in Chinese 14 Oct 82 p 1

[Text] A responsible member of the provincial committee spoke to this reporter yesterday that planting of more than 50 million mu of autumn wheat has been completed in the province and the cadres and commune members of rural villages are making continuous efforts to round up what work remains to be done to guarantee the quality and the quantity of the 55 million mu autumn planting plan of the province. This committee member said that this year the party committees and governments of all levels in the province have emphasized the autumn planting work. The masses have been fully mobilized to learn to implement the 12 great spirits of the party. The revolutionary will and passion for labor of the cadres and masses thus aroused form an effective push for the development of the autumn planting work. At present, aside from the four prefectures of northwestern Shandong which concentrate on cotton production, the planting plans distributed by the province of the other nine prefectures and cities have been basically completed. Not a few units are encouraging the masses to expand the wheat acreage.

Compared with the autumn planting of last year, this year's planting has the following major characteristics: Firstly, it got started earlier and progressed faster. Due to the fact that this year's summer planting was earlier, the autumn crop matured earlier so that the harvest, plowing, and planting time was all generally earlier than last year. Before the national holiday, 31 million-plus mu of wheat had been planted, 11 million mu more than the same time last year. Secondly the foundation was good and the quality was high. The soil moisture condition this year was better than at the same time last year. The quantity of farm fertilizer applied this year was about the same but the quality was better and the quantity of chemical fertilizer applied was obviously more than last year. Calculating on the basis of the quantity of fertilizer prepared and the actual acreage planted, on the average 45 jin of nitrogen chemical fertilizer and 60 jin of phosphate fertilizer were applied per mu. In the cotton region, there was an additional application of 30-plus jin of residue cake per mu. The land was intensively worked and leveled and the machine-plowed and machine-planted acreage was 20 to 30 percent larger than last year. Mounds were built in all wheat fields that were to be irrigated. By now, 36 million mu of the wheat fields that have been seeded have germinated and the seedlings appear to be complete and in good shape in most of these fields. Thirdly the system of wheat production responsibility was implemented early and well. When the autumn planting plan was being formulated in the various areas the wheat production responsibility system was worked out at the same time and production contracts were signed almost everywhere. The relationship of unity [in planning] and division [in responsibility] was also well handled. Fourthly there was an obvious improvement in scientific cropping. Technical training was carried out in all the areas. In most cases, training classes of various levels were organized before autumn planting. According to incomplete statistics, more than 700,000 cadres and farmers of communes and brigades participated in these training classes. More than 80 counties in the province practiced the agricultural technology responsibility system to take care of more than 3 million mu of wheatfields, more than doubling the acreage last year. Based upon the change in the condition of fertilizer and water, the various areas also changed the wheat breeds to cause the breed arrangement to be basically reasonable. In a word, the autumn planting work in the province has been performed relatively well this year, but there remain some problems. A few areas and units arranged less acreage than the planting plan distributed by the province, to result in a total shortfall of 1 million mu. In the cotton production region, the planting work progressed slowly. Some units have completed only half of their planting tasks. In some areas, the drought persists and it has become more and more difficult to carry out drought-resistant planting. Moreover, due to severe drought, germination of some wheat fields is not complete and the condition of missing seedlings is relatively serious. The provincial committee member pointed out that now that Cold-dew [8 Oct] is over, even with the relatively high temperature, there is not much suitable time left for wheat planting. All the areas should strengthen the leadership still further to finish whatever work remains to be done to guarantee the completion of the 55 million mu autumn planting plan of the province. For those units which progress slowly, the leadership, by all means, should be concentrated for an all out assault to speed up planting. In areas of concentrated cotton production, there should be an overall planning to resolve the labor contradiction of cotton harvest and autumn planting. Measures must be adopted to hurry up with the work of uprooting and turning over the stubble so as to plant sufficient wheat to meet the requirement of the state's plan. Areas and units suffering from severe drought should continue to mobilize the masses to carry out the drought resistance struggle. The soil should be moistened according to the actual condition of each locality before planting, or the method of seeding first before watering should be adopted to complete the autumn planting task before Hoar-frost-descends [23 Oct]. Those units that have completed or basically completed the autumn planting task should try to enlarge the wheat acreage as much as the condition permits. The wheatfields that have been seeded should be managed in a timely manner. Wherever the soil is deficient in moisture, supplementary water should be applied; wherever the seeds have germinated, the seedlings should be carefully inspected and thinned if they are too dense and supplemented if they are not dense enough. The tillering water should be duly applied. Attention should be given to prevention and control of ground pests to guarantee complete and strong seedlings to form a good foundation for next year's good harvest.

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CSO: 4007/54

SHANDONG

PROVINCE'S IMPOVERISHED PREFECTURES POST PROGRESS

Jinan DAZHONG RIBAO in Chinese 15 Sep 82 p 2

[Article: "Tremendous Changes in Four Northwest Shandong Prefectures in 3 Years; Third Plenary Session Policies Good; Becoming Prosperous Requires Full Reliance on Party Leadership"]

[Text] The four northwestern prefectures of Shandong, which were the very first in the province to institute the responsibility systems of "contracting output quotas to households" and "contracting work tasks to households," have readjusted their agricultural crop patterns over the past 3 years to make the most of advantages for the growing of cotton. As a result, gross income from agriculture has more than doubled, and commune member distributed income has almost tripled. The broad masses of cadres and people have termed the spirit of the Third Plenary Session of the 11th Party Central Committee "a pleasant rain after long drought."

Heze, Liaocheng, Dezhou, and Huimin prefectures located in northwestern Shandong consist of 13 counties with an agricultural population totaling more than 21 million and more than 41 million mu of cultivated land. Population and cultivated land area amount respectively to one-third and 40 percent of the province's total. During the more than 20 years prior to the Third Plenary Session of the 11th Party Central Committee, these four prefectures consumed a total of more than 7.1 billion jin of grain sold at a uniform price, incurred debts to the state amounting to more than 600 million yuan, and spent more than 800 million yuan of national relief funds. Since the Third Plenary Session, tremendous changes have occurred in the situation here. Major differences between 1981 and 1978 explainable in figures were as follows:

Total cotton output rose from somewhat more than 1.89 million dan to somewhat more than 10.97 million dan.

Gross income from agriculture amounted to 4.39 billion yuan, up 103.95 percent.

Average per capita collective distributions reached 138.80 yuan per year, a 92.10 yuan increase and more than 10 percent higher than the average for the province as a whole. On average, every 10 commune member households had 9.6 bicycles, 4.3 sewing machines, 4.5 wristwatches, 7.1 radios, and about one-third of all peasant households built new tile-roofed houses. Bank savings accounts increased 6.7 fold.

Contributions to the country have become greater and greater. Over a 3-year period they sold the state a total of more than 21 million dan of cotton, more than 900 million jin of grain, plus large quantities of furs, meats, and timber.

Collective accumulations have increased steadily, public accumulation funds amounting to 132 million yuan for a 40.4 percent increase. Collective grain reserves amounted to more than 26 million jin. The number of farm machines has increased greatly, and the amount of collectively owned fixed assets has risen.

9432
CSO: 4007/4

BRISK RURAL MARKETING ACTIVITIES IN TAIAN PREFECTURE

Jinan DAZHONG RIBAO in Chinese 10 Sept 82 p 2

[Article: "Adhere to the Principle of Taking the Planned Economy as the Key Link With Market Regulation Being Supplementary; Taian Prefecture Supply and Marketing Cooperative Staff and Workers Study 12 Major Documents; Look to Future With Full Confidence at Being Able To Do a Good Job of Rural Market Busy Season Purchase and Marketing Work"]

[Text] Taian Prefecture supply and marketing cooperative cadres, staff, and workers have assiduously studied the 12 important documents for further correct understanding and implementation of the principle of taking the planned economy as the key link with market regulation being supplementary, and to take action to do a genuinely good job of market busy season purchase and marketing work.

In the course of studying the 12 important documents, the supply and marketing cooperative cadre, staff, and workers in this prefecture related the study to supply and marketing work realities in the prefecture, and reviewed the achievements that have been won since the Third Plenary Session of the 11th Party Central Committee. In the period between 1979 and 1981, Taian Prefecture supply and marketing system procurement of agricultural sideline products has risen from a total figure of 94 million yuan to 128.12 million yuan, and average annual sales of agriculture sideline products to the state have risen from 16 yuan to 25 yuan. Rural business sales figures for the prefecture have gone from 440 million yuan to 491.6 million yuan for giant strides in a 3 year period. Quantities of major agricultural sideline products purchased such as cotton, fruits, mulberry silkworm cocoons, honey, jute, santiao [0005 2742], livestock products, and manufactures made of reeds, and quantities of industrial products marketed such as bicycles, wristwatches, wall clocks, television sets, radios, and chemical fiber cloth set all-time highs. The broad masses of cadres, staff and workers look ahead with confidence and strength at the bright prospects for socialist business, determined to understand better and carry out the principle of taking the planned economy as the key link with market regulation being supplementary to do a better job of rural commercial work.

Rural markets are now entering the busy season, and mountain area building endeavors will also soon start an upsurge. Taian Prefecture supply and marketing cooperatives have decided to invest nearly 1 million yuan in support of production in mountain regions to help communes and brigades develop economic diversification. One-third of the funds are to be used for the planting of resources; one-third is to be used in scientific and technical experiments; and one-third is to be used in product processing. Ten dry fruit [nuts and condiments] bases, 10 fresh fruit bases, five livestock bases, and three tiaozi [2742 1131] bases are to be built. In addition, no opportunities will be lost to take a firm grip on procurement of agricultural sideline products, notably cotton and fruits. By sending goods into the countryside, extending wholesale points into the countryside, through the use of state-supplied joint business ventures, and the conversion of shops acting as agents for purchases and sales to businesses run by production teams themselves, by keeping channels open, and by organizing dispatch to the countryside of industrial products, a good job of supplying the means of production for the "three autumn jobs" [harvesting, plowing, and sowing] will be done. Day after day regional supply and marketing cooperative leaders have held continuous vocational meetings of supply and marketing cooperatives in each county, and they have gone to prefecture native products stations, means of production stations, and cotton and hemp stations to inspect the situation and formulate specific programs. They have also assigned seven people to organize work teams to be sent to Xintai, Ningyang, and Xinwen counties to gain an understanding of the situation regarding support to the construction of mountain regions, and to urge on development of supply and marketing activities. According to incomplete statistics, between 1 and 4 September the prefecture's supply and marketing system sent 3,500 shipments of goods into the countryside, marketed 15.2 million yuan worth of goods, and purchased agricultural sideline products to a total value of 5.72 million yuan.

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CSO: 4007/4

BRIEFS

RECORD DOMESTIC ANIMAL BREEDING--The Animal Husbandry Department of Huimin Prefecture established and perfected a large domestic animal breeding economic responsibility system to allow the three indices of mating, insemination, and birth to reach the highest level in the prefecture's history. They first reorganized the 37 state-operated and commune-operated domestic animal breed improvement stations. Following reorganization, a detailed work rule was formulated for each station to establish and perfect an economic responsibility system for each job and to award prizes of mating and insemination classes to encourage the cadres and technicians to be positive. The Fuguo Breed Improvement Station of Zhanhua County established an insemination point in Yongfeng which is rather far from the station, and every day technicians traveled 40 li to the insemination point to meet the animal breeding needs of the masses. In the first half of this year, more than 1,600 female animals were inseminated, a 2-fold increase over the entire year last year. The 17 state-operated animal breed improvement stations of the prefecture have all surpassed last year's records in the number of animals inseminated and the number of successful pregnancies. Private households raising stud animals are identified, registered, and certified by the commune animal husbandry and veterinary medicine department and provided with a certificate to allow mating participation. The prefecture now has 120-plus households thus certified and they raise more than 150 studs to inseminate 9,360 female animals, amounting to 18 percent of all female animals inseminated in the entire prefecture. [Text] [Jinan DAZHONG RIBAO in Chinese 13 Oct 82 p 1] 6248

COTTON OUTPUT--Once more the cotton harvest in the province has been good this year. The cotton crop is growing very well everywhere and there is a general yield increase. The cotton farmers are happily picking the new cotton, on the one hand, and negotiating sales and deliveries to the state, on the other. Middle summer bolls are numerous and boll openings concentrated so that the cotton purchase has arrived ahead of time. By 10 October, the daily purchase quantity reached 300,000 dan and in the province 6,231,000 dan of ginned cotton had been bought, 1.39-fold of the same period last year. In order to carry out the cotton purchase realistically and well, the leaders of the various cotton-producing areas have cooperated closely with related departments and tried to perform all items of work well. The Weifang Prefecture extended, with all out efforts, the method of using the production team or several teams together as a unit seller and relatively good results have been obtained. This method basically resolves the problem of cotton purchase difficulty. After the implementation of the joint production responsibility system in such counties as Gaotang, Linqing, Xiajin, Huicheng, etc, with respect to cotton production, the new condition of a growing number of households selling separately has occurred and the work of designating fixed time, place, and lots for balanced purchases and deliveries is being earnestly carried out. Under the guidance and support of the local party committees and governments, many purchase stations are also urgently organizing short distance transport of cotton for timely delivery of the purchased cotton to the cotton processing plants. [Text] [Jinan DAZHONG RIBAO in Chinese 13 Oct 82 p 1] 6248

HIGH YIELD CORN VARIETY--Li Denghai [2621 4098 3189], the national new long march assault specialist and the head of the agricultural science team of the Houdeng Brigade of Xiyou Commune and his friends bred out the corn superior variety, Yedan No 2. This year, it produced a very good harvest over a large area. The provincial, prefecture, and county science and technology departments acknowledged, after on-site inspection and receipt most recently, that the yield of the 10,480 mu of corn averaged 1,072 jin/mu. According to the specialists who came to the inspection, this kind of high corn yield over such a large area is unprecedented in the country. This result has presented a delightful prospect for future large-scale increase of unit yield of direct seeded corn. Li Denghai and his friends of the agricultural science team worked very hard for 7 years to select and breed out in 1979 this new superior breed of corn, Yedan No 2. It has good stalk shape; the weight of the grain is high. It is resistant to Helminthosporium leaf spot disease of corn, suitable for dense planting, and highly adaptable. It has produced 1,807.7 jin/mu as spring corn and 1,613 jin/mu as summer corn respectively to create the high yield record of corn in north China and received the provincial science and technology award. Tests by some scientific research units and commune-brigades of 24 provinces, cities, and autonomous regions have all produced yields of above 1,000 jin/mu. This year, it is used for the 10,480 mu of corn of all the 18 brigades of Xiyou Commune. Under the guidance and with the help of the supervising science and technology department, they designed a complete set of scientific management program to strengthen the management of the corn crop to apply nitrogen, phosphorus, and potassium in a coordinated manner, to apply water in a timely manner, and to exterminate pests. With the joint effort of cadres and masses, serious drought and pest calamities were overcome to produce the large area high yield result. [Text] [Jinan DAZHONG RIBAO in Chinese 13 Oct 82 p 1] 6248

CSO: 4007/54

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TITLE: "Effects of the No 4 Typhoon in 1977 on the Heavy Rainstorm over North China"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 1-8

TEXT OF ENGLISH ABSTRACT: In this paper, a detailed analysis is presented to show the effects of the No 4 typhoon of 1977 on the heavy rainstorm in Hebei and Liaoning provinces of north China. It was found that during the late summer the landed typhoon along the east coast of China caused a hard rainstorm on north China mainly through the low-level SE jet between the typhoon and the Pacific subtropical high. This low-level jet was an important interaction link between the typhoon and the west trough. It not only transported a large amount of water vapor and led to vapor convergence, but also formed energy grontogenesis along the shear line of the middle-low troposphere and provided convective instability energy which is necessary for the mesoscale convective activity.

[Continuation of BEIFANG TIANQI WEN JI No 2, May 82 pp 1-8]

In addition, there was inhomogeneity of the low-level jet in time and space and, in particular, there were south wind pulses on the low-level jet. These south wind pulses propagated northward along the low-level jet and directly triggered the generation and development of mesoscale system.

Finally, according to the interaction between large and mesoscale systems, it is emphasized that the interaction of middle- and low-latitude large-scale systems is very important for the short range forecast of hard rainfall.

AUTHOR: TIAN Shengchun [3944 3932 2504]

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TITLE: "A Study of the Condition of the Occurrence of Convective Rainstorm at the Northwestern Subtropical High in North China in Summer"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 9-18

TEXT OF ENGLISH ABSTRACT: In this paper a case of a convective rainstorm on 5-6 August 1977 at the northwestern subtropical high in north China is analyzed diagnostically with data of sounding for 3 days. The mesoscale features of convective rainstorms are revealed.

It is shown that the abundant water vapor and interaction between cold dry current and warm moist current will cause the formation of mesoscale vortex and then the rainstorm occurs.

The early day's features of wind, temperature and moisture field are shown and the suitable physical conditions of the background are summarized. It is also shown that the small Ri-parameter and $T-T_d<3^\circ C$ existing in the whole air column are favorable macroscopic conditions for the rapid increasing of the small water drop.

AUTHOR: YANG Hongmei [2799 4767 2734]
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TITLE: "Local Conditions Inducing Exceptional Severe Rainstorm of the Warm Lid Type"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 19-24

TEXT OF ENGLISH ABSTRACT: According to analysis for 10 cases of the exceptional severe rainstorm of the warm lid type, it is found that they occur during similar local conditions which precede the onset of the rainstorm by several hours. The conditions are the meso- or small-scale energy front, the deep moist layer with high energy level, the large latent instability energy and the trigger systems (the lower and middle level convergence).

AUTHOR: LI Jishun [2621 0679 7311]

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TITLE: "Some Climatic Characteristics of Hailstorms and Heavy Rainstorms in China"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 31-39

TEXT OF ENGLISH ABSTRACT: In this paper, the climatic analysis of the hailstorms and heavy rainstorms in China is made. It is found that a heavy rainstorm often occurs in eastern China and a hailstorm in western China. With seasonal variation, the maximum frequency of the latter is about 1 month earlier than that of the former. It is indicated that hailstorms often occur in the region between the polar cold air mass and modified cold air mass in middle latitude, but heavy rainstorms occur in the region between the modified cold air mass in the middle latitude and the tropical warm moist air mass.

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TITLE: "A Method for Predicting the Occurrence of Huang-Huai Cyclones* by Discriminant Analysis"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 84-90

TEXT OF ENGLISH ABSTRACT: The method for predicting the occurrence of Huang-Huai cyclones by discriminant analysis is formed on the basis of the practical forecast. First, the data of the multidimensional predictor should be projected according to Fisher criterion on a plane, on which the boundary between the occurrence and non-occurrence of the cyclone should then be decided. The forecast according to the decision boundary is superior to that made with a single linear discriminant function.

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*A cyclone formed at the Yellow River and Huai River region.

9717
CSO: 4011/27

AUTHOR: ZHAO Jingzhong [6392 2529 1813]

ORG: Department of Geophysics, Beijing University

TITLE: "Understandings From the Prediction of Extremely Heavy Rainfall in East Hebei on 28 Jul 79"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 2, May 82 pp 114-117

ABSTRACT: A heavy rainfall, as much as 430 mm in some places, occurred in the early morning of 28 Jul 79 in E. Hebei. A forecast map (Fig 1) made by the author, 24 hours prior to the rain, with TAO Zuyu [7118 4371 6877] MENG Guangli [1322 1684 4409] of Beijing University and LIU Chunzhen [0491 2504 5550] ZHANG Fuyuan [1728 4395 0337] of Meteorology Group, Ministry of Water Conservancy participating, coincides very well with the rainfall report issued by the State (Fig 2) in terms of the areas of distribution of the extraordinarily heavy rain. The paper reports the procedure used for the forecasting. Based upon an analysis of the rainstorm formation situation in the vicinity and the Mongolian low eddy, the position of the 300 mb jet stream and the center of the 700 mb up current were taken into consideration. The uplifting action of the southern slopes of Yanshan Mountains on the southeastly of the Bahai Bay was estimated; the cloud scan of the Japanese satellite GMSI and Japanese weather forecasts for 26 and 27 of Jul were used as references for the authors to pinpoint the center of the rain in the area to the north of Tangshan. A method summarized by the authors to forecast effectively the localized rainstorms in the month of Aug in Beijing is mentioned in the paper but not actually introduced.

AUTHOR: XIA Jianping [1115 1696 1627]

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TITLE: "A Brief Report of the Weather During the Flood of Autumn 81 in the Upper Reaches of Huanghe"

SOURCE: Beijing BEIFANG TIANQI WEN JI [WEATHER IN NORTH CHINA] in Chinese No 3, May 82 pp 120-122

ABSTRACT: Following a dry spell in early Aug, starting on 13 Aug, it rained continuously almost without interruption in the upper reaches of Huanghe. By early to middle Sep, the flood of the region was the worst ever, according to actual hydrological records. The hydroelectric power station, Longyanxia, then under construction and the vast region of both banks of Huanghe in Qinghai, Gansu, Ningxia, and Nei Meng were seriously threatened. The paper does not mention the extent of the damage, however. The meteorological situation, in the 3 periods of late Aug, 30 Aug to 7 Sep, and 8-14 Sep, is briefly reported. The flood receded a few days after the rain stopped,finally, on 14 Sep. The total rainfall in the month, the average 500 mb situation, the major low pressure centers, and the rate of flow in Maqu Gansu in units of m/sec are reported in graphs in the paper.

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I. GENERAL INFORMATION

IMPROVE AGRICULTURAL PRODUCTION RESPONSIBILITY SYSTEM URGED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 10, 23 Oct 82 pp 12-15

[Article by Liu Xumao [0491 4872 5399], Commune and Brigade Industries Management Bureau, Ministry of Agriculture, Animal Husbandry and Fishery]

[Text] The various areas implemented the spirit of the "Summary of the National Rural Work Conference" issued by the Party Central Committee, further improved and developed the agricultural production responsibility system and performed a large amount of excellent work. According to statistics through the end of June this year, 99 percent of the production teams throughout the country had introduced the responsibility system, with 90 percent or more of them following the responsibility system of compensation linked with output and 74 percent of them also following that of "double contracting" by households. After 2 years of major reforms, China's rural production relations have been basically readjusted and large-scale changes are things of the past. The responsibility system in various forms has activated the enthusiasm of the hundreds of million peasants, enabling our broad rural villages to continue output increase and flourish, thereby creating an excellent situation. With the free will of the masses and the guidance of the leadership, the readjustment of the rural production relations this time, as indicated by numerous facts, was necessary and sound, favorable to production and compatible with the basic socialist principles.

While the responsibility system pursued in the past 2 plus years has resulted in great achievements, it does not mean that the readjustment of rural production relations has concluded. To perfect the various forms of the responsibility system, we must still perform protracted arduous and careful ideological-political, organizational and research work. Like guiding the agricultural cooperative movement in the past, we must concentratively study and solve the problems in perfecting and improving the agricultural production responsibility system. Therefore, we must, in our guiding ideology, be prepared for a protracted effort in the pursuit of the agricultural production responsibility system. It is a necessity in our endeavor to perfect it and learn the historical lesson of failing to follow up the agricultural cooperative movement with the work of stabilizing, consolidating and improving. We must clearly realize that it is absolutely impossible for such a tremendous and profound change as introducing the agricultural production responsibility system to be accomplished by one stroke. We must, with the development of production, continuously summarize the experiences, spread the good and avoid the bad and further perfect and improve it.

According to the practice of introducing the responsibility system in the past 2 or 3 years and the experience of the past winter and spring, the solution of the following main issues must be stressed in order to perfect and improve the responsibility system.

I. Improve Understanding and Correctly Handle the Responsibility System

Perfecting and developing the responsibility system will inevitably lead to this or that kind of ideological problems. Today, we must guard against two incorrect tendencies: On the one hand, some people feel that, since the enthusiasm of the peasant masses is so high and steady, the task of perfecting the responsibility system has been completed. On the other hand, there are those who regard the new things in the old framework. The moment both unification and dispersal, and unification on the basis of contracting are mentioned, they immediately think of the "leftwing" things of the past. If the first tendency is not overcome, the work of stabilizing, perfecting and developing the responsibility system is out of the question. If the second tendency is not corrected, it will surely dampen the enthusiasm of the peasants.

There are three basic requirements to stabilize and perfect the responsibility system: The first is to have a clear direction, compatible with the principle of "adherence, consistency and consideration." The second is to promote the development of production, increasing both output and income, improving labor productivity and enhancing the commodity rate of products. The third is the free will of the masses and compatibility with the needs and demands of the local people.

In regard to stabilizing and perfecting the responsibility system, some people feel that, "to stabilize, perfection cannot be sought; to perfect, stability is difficult to attain." This view is one-sided and incorrect. As proved by experience, stabilizing and perfecting are mutually complementary. The basic stability of the current responsibility system will provide experience and benefit further perfection. Only when the responsibility system is perfected and production further developed will there be the necessary stability. In other words, the responsibility system must be perfected in the course of stabilization and stabilized, developed and improved in the course of perfecting. The peasants fear change, because they fear the road of retrogression. The perfected responsibility system, guided according to the circumstances, is precisely what the peasants desire. Stability will not be difficult and perfection is attainable.

Do all the different forms of responsibility system have to be further perfected? The answer is yes. Because of their adaptabilities and limitations and their good points and defects, all the different forms of responsibility system need to be improved by means of summarizing the experiences. Only by following the method of dividing one into two and adhering to the doctrine of two aspects in everything will we avoid making the mistakes of subjectivity, one-sidedness and superficiality, bringing our old way of looking at things to the work of perfecting the responsibility system, and even believing that perfecting the responsibility system is to replace all its different forms with a certain form and seeking arbitrary uniformity. We must know that the various forms of responsibility system are not mutually exclusive. In the course of perfecting it, we must compare and make reference to the various forms, in order to learn the good points of others to offset our own weaknesses, incorporate things of diverse natures and bring out the best in all.

Why is the work of perfecting the responsibility system protracted? Because the emergence of the various forms of responsibility system in China's broad rural villages has produced a series of profound changes in the rural production relations and many complex problems calling for solution. A process is required for the broad cadres and masses to adapt to the changes, for the discovery and solution of problems and for the improvement of the entire operation and management level. Therefore, the work of perfecting the responsibility system cannot be completed by a short-term rush effort. It must be handled as the central link and long-term task of rural work, with greater achievements as the goal.

II. Correctly Handle the Relations between "Unification" and "Dispersal"

The various kinds of contract responsibility system consist of both "unification" and "dispersal," and "contracting" is the integration of the two. Therefore, correctly handling the relations between "unification" and "dispersal" is the crucial part of perfecting the responsibility system. "Unification" means that all matters suitable for unified operation and management are placed under collective unified operation and management, including items, links and measures of production, farmland capital construction, and arrangements for families of soldiers killed in action, households enjoying the five guarantees, the production and living of those with financial difficulties, and cultural and educational, public health and public welfare undertakings. "Dispersal" means that production items and productive activities suitable for decentralized operation and the appropriate production means are dispersed among and contracted to groups, households and labor forces. Through all forms of contracting, "unification" and "dispersal" are integrated and the enthusiasm of the collective and the individual enhanced.

Due to the different concrete conditions of the various areas and the different forms of responsibility system, the requirements for "unification" and "dispersal" cannot be identical. We must follow the principle of suiting the measures to the area and unify and disperse accordingly. In handling the relations between "unification" and "dispersal," the word "suit" must be stressed. The peasants demand self-determination in operation. Under China's concrete conditions, self-determination by the peasants and operation with peasant households or small groups as the units are feasible within a considerably long period of time, and we should encourage and develop the peasants' enthusiasm. Nevertheless, in the more than 2 decades of agricultural collectivization, the peasants have experienced the superiority of unified operation and cooperative labor. This superiority must continue to be developed in the future. According to the conditions today, collective unified management and arrangement of land use, other natural resources and crop layouts, of the use of large farm machinery and water conservation facilities, of the completion of the state purchase quotas and assigned purchase tasks, of the handling and use of collective deductions and reserves, of the livelihood of families of soldiers killed in action, households enjoying the five guarantees and those with financial difficulties, and of the planning of necessary and feasible farmland capital construction are favorable to the development of production and the perfection of the responsibility system. Naturally, as to which undertakings should be placed under unified operation or which ones should come first, the units must suit the measures to their own conditions.

Land, the basic production means of agriculture, belongs to the collective and is under its unified arrangement. Regardless of the form of responsibility system adopted, land contracting must be as rational as possible. When the responsibility system was launched, the peasants, concerned about changes in policy, all hoped to contract for a piece of land. Some areas divided the contract land evenly per capita, and a number of problems emerged in the production process, but there is no cause for alarm. Some households with many members but few labor forces wish to contract for less land and get more assignments for other kinds of labor. Craftsmen with special skills wish to pursue their own specialized labor and ask to have less or no land contracted to them. Those who are skillful in farming and have many labor forces wish to contract for more land. Such demands for readjustment out of their own free will should be encouraged and adroitly guided, in order to promote diversification, develop commodity production and advance toward the specialization and socialization of production. To dispel the peasants' fear of "change" and stabilize the policy, an extremely cautious attitude should be taken in land readjustment. It is the reason for the proposal made by some areas that "readjustment is required, but there should be no major or arbitrary measures." With the development of the rural economy, the growing number of specialized labor divisions and the gradual shift of the labor force to realms beyond farming, the masses will voluntarily make demands for readjustments. The course of readjustment should be natural, not forced.

As the collectively owned water conservation facilities, large farm machinery, industries and equipment are the valuable assets accumulated through the diligence of the masses of many years and will produce an important effect in the development of production, they must be properly protected and utilized, and the damaged articles repaired for reuse. In regard to such collective assets under unified management and use, the articles suitable for contracting out for specialized use should be so handled, so that they can be fully utilized. All collective fixed assets must be recorded in books, and articles suitable for dispersed custody and use rationally priced, thereby safeguarding the principal and the value.

III. Properly Handle the Several Integrations

The agricultural production responsibility system has activated the entire rural work and enlivened the rural economy. If the tasks connected with the responsibility system are properly performed, it will surely promote its stabilization and perfection. Therefore, the following several integrations must be properly handled:

1. Integration of perfecting the responsibility system and developing rural difersification: After introducing the responsibility system in various forms, the rural labor force, due to the higher efficiency, generally has one-third surplus time with nothing to do. Actively deploying diversification, seeking outlets for the surplus labor force, changing the irrational situation in some areas where "the entire labor force is assigned to farming" and developing the commodity economy constitute a prominent issue calling for solution. Perfecting the responsibility system and deploying diversification are mutually complementary, mutually promotive and closely linked. The responsibility system has enhanced the productive enthusiasm and creativity of the masses, improved labor efficiency, attained the goal of higher output and higher income and provided labor and capital for diversification. Deploying diversification will expand the fields of production and create the premise for solving the problem of surplus labor force, promoting specialized labor division and building a sound responsibility system. In line with the practical conditions of the natural and labor resources of their own units, the communes and brigades following the various forms of responsibility system must utilize the economic strengths already accumulated, launch the masses, open all avenues to create wealth, gradually add new items of production, organize all kinds of special teams, groups, households and labor, practice the responsibility system of specialized contracting and compensation linked with output, and raise labor productivity and products commodity rate.

2. Integration of the production and technical responsibility systems: The agricultural production responsibility system has led to the "science craze." With an unprecedented enthusiasm for science, the broad peasants urgently demand new productive technology to increase production. To adapt to the new situation and satisfy the demand of the broad peasants, the agricultural technical popularization units and scientific and

technical personnel (including peasant technicians) must establish a technical popularization responsibility system between the collective production units and the contractors, so as to furnish reliable scientific and technical guidance and guarantee to production. The technical responsibility system may be a combination of many items or cover only a single item; it may follow the method of compensation linked with output or collect only the cost or service charge. The forms of the technical responsibility system may be manifold and adjusted to the local conditions, but the principle of free will must be upheld, with benefit for both sides. When forming a technical contract, the rights, responsibilities and benefits of both sides and the concrete method of performance must be stated clearly, in order to facilitate inspection, implementation and fulfillment.

3. Integration of perfecting the responsibility system and reorganizing financial affairs: Reorganizing financial affairs is a crucial link in perfecting the responsibility system. With the introduction of the responsibility system in various forms, financial management must be adapted to this development and change. When the accounts are in confusion and the commune members have no trust in the collective and the cadres, building a stable responsibility system is out of the question. Therefore, reorganizing financial affairs and perfecting the responsibility system are directly linked and constitute the two sides of one issue. In reorganizing financial affairs, the old accounts must be settled and made known to the commune members and the relations between credit and liabilities clarified. Collective goods and materials and assets must be inventoried, verified and recorded, new accounts established and a stringent financial management system set up. A crucial task indispensable for building and perfecting the responsibility system, it must be properly handled.

IV. Properly Form, Manage and Fulfill Contracts

The responsibility system in its various forms cannot be separated from the word "contract." Forming contracts, concretely integrating "unification" and "dispersal," and fixing the rights, duties and interests of the collective and the contractors constitute a crucial aspect in perfecting the responsibility system and the principal means to give first place to the planned economy, with consideration for the interests of the state, the collective and the individual, and to ensure the implementation of the responsibility system. There can be no responsibility system without contracting. Therefore, all units following the responsibility system should also practice the contracting system.

As the forms and the patterns of operation of the various kinds of responsibility system are not identical, the contents of the contracts should also differ. Generally speaking, the production teams must specify the kinds, amounts and quality of production means and the time and technical service to be furnished to the contracting units. The production teams with a fairly high unified operation must also specify the production expenses, the items of unified operation and the labor compensation to be furnished by them. As a rule, the contracting side must specify the varieties contracted for, the amount or value (profit) of the products to be completed, and the material objects and cash to be turned over to the higher level. The units practicing contracting by households must severally specify the man-days for the required and assigned purchase tasks of the state and for agricultural capital construction, civil construction and public welfare undertakings. The inclusion of birth control in the contracts in many areas is a good means to control population growth.

When introducing the contract system, the forming of the contract must first be properly handled. As the process of forming a contract is the process of educating and launching the masses, the formalist practice whereby "the cadres set the quotas and the masses affix their seals" must be avoided by all means. Only the quotas decided after conscientious discussions and by agreement of both sides will have the guarantee of fulfillment. After a contract is signed, close attention must be given to supervision and inspection and problems must be uncovered and solved promptly. There must be no delay until the last minute to make a final accounting, wasting time and bungling matters. To ensure the fulfillment of a contract, the production team must first conscientiously perform its obligations specified in the contract before it can demand performance by the contractor. The contract must not be regarded as a notification to the commune members of the tasks to be performed by them. The most important point is that the utilization of the contracting system must be mastered, in order to organize production and manage the economy more efficiently, enable the collective economy to develop rapidly under unified planning and organically integrate the interests of the state, the collective and the individual.

V. Strengthen the Basic Level Leading Groups

Properly building the basic level leading groups, especially those of the production teams, is the key to perfecting and stabilizing the responsibility system. The introduction of the various forms of responsibility system is not only a readjustment of the rural production relations, but also a series of changes involving the superstructure. The duties of the basic level rural cadres and the political and economic functions of the basic level organizations must be adapted to the changes.

According to the experiences of the various areas in reorganizing and building the basic level leading groups, generally the following three tasks must be properly performed:

1. We must educate the cadres by all kinds of ways to improve their understanding. That some cadres fail to comprehend this major readjustment of the rural production relations and keep pace with it in their ideology is understandable. We should clearly announce to them: Regardless of what production responsibility system is followed, the burden of the

basic level cadres is not reduced, but increased, and the view that, "by contracting to the households, the cadres are no longer necessary" is incompatible with the facts and incorrect. We must reinforce the ideological-political education of the basic level cadres, commend the advanced, build their sense of honor and responsibility as cadres and, by means of the necessary democratic procedure, make them step forward justly and boldly to perform the work.

2. We must clarify the spheres of duty of the basic level cadres under the new situation, build and perfect their personal responsibility system and rationally solve the problem of their compensation.

3. We must conscientiously and properly perform the work of cadre training. It is a crucial link in perfecting the responsibility system. Many basic level cadres lament: "The old methods don't work, and we don't know the new methods." We must, by way of training, enable them to learn the new methods, improve their operation and management level and adapt to the need of the new situation as rapidly as possible. Under the new situation where most production teams follow the practice of contracting with the households, we must teach the cadres to render classified guidance of the contracting households. The households with a strong labor force, skills and capital must be induced to get rich by labor and refrain from dishonest practices; those with a weak labor force and inadequate capital must be concretely helped to overcome their difficulties and develop production.

After undergoing the party's long education, the overwhelming majority of our basic level cadres is fairly good. As long as the above-mentioned problems are solved, they will be willing to perform the work properly. The leaders of the various levels must actively support the cadres in their work, help them learn the work methods under the new situation, improve the leadership style and enable the cadres to do their work more efficiently.

We must fully understand the crucial importance of perfecting and developing the agricultural production responsibility system, resolve to wage a protracted struggle for it, promptly uncover and solve the new problems, summarize the new experiences and strengthen the responsibility system.

6080
CSO: 4007/35

RURAL SAVINGS, LOAN SITUATION REPORTED

Increased Rural Savings

Beijing ZHONGGUO NONGMIN BAO in Chinese 14 Oct 82 p 1

[Text] Chinese Bank of Agriculture director, Han Lei [7281 7191], said recently at a conference to exchange experiences on improving the economic effectiveness of farm loans that both rural bank savings and loans are flourishing in China today, and economic effectiveness of rural credit is gradually improving.

Statistics show that as of the end of August this year, rural savings totaled 48.9 billion yuan for the country as a whole, an increase more than double that of the same period in 1978. This includes commune members savings accounts totaling 25.14 billion yuan. Bank and credit cooperative rural loans outstanding of various kinds total 66.94 billion yuan, 26.43 billion more than during the same period in 1978. This includes loans to double-contracting households [households contracting to meet fixed output quotas and contracting full responsibility for task completion], specialized households and key households as well as loans to rural market town industries and business and service trades, all of which have increased considerably. During the past several years, the increase in rural savings has been greater than the increase in rural loans. At the same time, as a result of the improved economic effectiveness of loans, the turnover period for loan funds has accelerated. Between January and August this year, loans issued amounted to a cumulative 181.47 billion yuan, and the amount repaid amounted to 179.53 billion yuan, or 98.9 percent of the cummulative amount of loans issued. This conference, which China's Bank of Agriculture convened in Shijiazhuang during the latter part of September, exchanged and summarized experiences and accomplishments in rural banking work since the Third Plenary Session of the 11th Party Central Committee. This was also a conference for the rural banking system's implementation of the spirit of the 12th Party Central Committee and for mobilizing further support for the development of agriculture.

Effective Use of Rural Credit Explained

Beijing ZHONGGUO NONGMIN BAO in Chinese 14 Oct 82 p 1

[Text] Ever since the Third Plenary Session [of the 11th Party Central Committee], rural banking work has developed greatly. Rural savings have increased rapidly, and the economic effectiveness of rural loans has steadily increased.

What does economic effectiveness of rural loans mean? It means commune brigade and commune member use of bank loans to lower costs, to raise output, and to increase earnings, repaying the loan funds on time. In order to accomplish this, units using the funds must strengthen their economic accounting, calculate carefully, and make full and effective use of funds.

Some people ask whether in order to raise economic effectiveness farm loans are also used to support "poor brigades and production teams." Actually there is no contradiction between raising economic effectiveness and supporting poor brigades and production teams. Formerly banks supported quite a few brigades and production teams and the main reason why some funds were never repaid was poor economic effectiveness. If rural banks are to increase economic effectiveness, they cannot use loans for relief, respond to every request and make loans blindly as they did in the past. They have to look into actual circumstances, investigate and study, help and support poor brigades and production teams adapt general methods to local situations, make the most of advantages, open avenues for production, undertake production activities that require little investment of funds, that produce quick results, and that bring large benefits, use genuinely workable measures to increase output and earnings, develop a commodity economy, and increase income. The credit principle of selecting the best for support means selection of those best in economic results rather than selection of the poorest or the richest. Whoever holds superior prospects gets support. In a certain sense, poor brigades and production teams offer the greater potential for development of production, and frequently they are more superior.

People also ask why there is so much emphasis on repayment of loans on time in raising the economic effectiveness of farm loans. Farm loans are rural savings that the Bank of Agriculture and credit cooperatives have taken in. Savings are paid in and paid out, so credit funds must be loaned out and repaid. Only when banks and credit cooperatives are repaid on time can they continue to issue loans, to accelerate the circulation of funds, and make a single penny do the work of several to satisfy more needs in the building of production. Therefore, the Bank of Agriculture and credit cooperatives have to strengthen credit management and set time limits on credit in accordance with credit policies and the cycle for building agricultural production, issuing and collecting loans on time. Units that borrow funds should also bear in mind the overall situation, strictly abide by credit agreements, and take the initiative in returning funds on time in order to assure turnover of funds and raise the economic effectiveness of credit funds.

9432
CSO: 4007/28

IMPROVED RURAL SAVINGS AND LOAN SITUATION REPORTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 14 Oct 82 p 1

[Article: "Economic Effectiveness of Farm Loans Gradually Improves; Rural Savings Accounts This Year Increase More Than Twofold Over 1978"]

[Text] Chinese Bank of Agriculture director, Han Lei [7281 7191], said recently at a conference to exchange experiences on improving the economic effectiveness of farm loans that both rural bank savings and loans are flourishing in China today, and economic effectiveness of rural credit is gradually improving.

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9432
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SPUR GIVEN TO LAGGING COMMUNE FINANCIAL REORGANIZATION WORK

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL AFFAIRS] No 10, 6 Oct 82 pp 2-3

[Article: "Continue to Take Firmly in Hand and Do a Good Job of Financial Reorganization This Winter and Next Spring"]

[Text] According to statistics as of the end of June this year, 35.5 percent of the nation's production teams had instituted reorganization of rural commune and production brigade finances as part of a nationwide effort, and 30.3 percent of production teams had finished this task. In all places in which a fairly good job of financial reorganization has been done, benefits have been quite remarkable. They have been exhibited in the following ways: (1) Clarification of property owned by the collective economy in preliminary solution to a problem of several years standing of discrepancies between records and realities. (2) Checking up on losses and waste and the evil practices of entertaining guests and sending gifts for influence purposes, with promotion of financial management systems of responsibility of fixed norms for expenditures and assumption of sole responsibility for finances, which have promoted increased income and economizing on spending. (3) Clarification of credits and liabilities, with the recovery of some funds owing and funds overspent by commune members. (4) Disposition of a group of cases involving corruption and embezzlement, with recovery of property belonging to the collective, redemption of a group of cadres, and improvement of relations between cadres and the masses. These actions have been extremely beneficial in maintaining public ownership of the means of production, and in buttressing confidence, about running the collective economy well. (5) Establishment and perfection of fiscal accounting systems, training and testing of rural accountants, and elevation of the professional level of financial accounting personnel.

Problems currently existing in commune and brigade financial reorganization are the following: (1) Progress has been very uneven. Some municipalities and counties have already completed this work, while numerous other municipalities and counties have not yet begun it. (2) Some of the communes and brigades that have completed reorganization have not complied with requirements of State Council Document Number 10, and make-up work has to be done. (3) A large number of the economic problems uncovered have yet to be taken care of. (4) The basic professional knowledge of still another portion of accountants is very poor. In some production teams old accounts have not been reconciled and new accounts have not been entered on time or according to regulations, resulting in missing recores or mistaken records etc. There are numerous reasons for the foregoing such as "insufficient attention on the part of leaders, or caring only about getting on with the job without concern for quality, and neglecting consolidation of the results of reorganization, plus too frequent changes in production team accountants, new accountants having poor basic skills, etc.

The CPC Central Committee and the State Council have issued repeated injunctions requiring decisive reorganization of commune and brigade finances. We must zero in on existing problems and take a firm grip on this work this winter and next spring for fundamental solution to this deadly problem of bad financial management. Those communes and brigades that have yet to begin financial reorganization should devote a block of time to it and organize specialized teams to act in accordance with CPC Central Committee and State Council requirements. They should run pilot projects and then rapidly expand to reorganize a large number this winter and next spring, striving to complete commune and brigade financial reorganization by the end of next year. Places that advance in their reorganization work fairly rapidly should turn attention to the handling of economic problems, and devote attention to the task of inspecting and examining before accepting results so as to assure quality or reorganization. Communes and brigades that have done sub-standard reorganization work are to conduct new surveys and make up deficiencies, augmenting wherever necessary to meet requirements of State Council Document Number 10, maintaining quantity and quality in fulfillment of financial reorganization tasks.

Training of financial accounting personnel should be intensified. Profiting from the lessons of experience about technical problems that come to light in accounting, strengthening of training in basic skills, and stabilization of the accounting corps are extremely important. Only when attention is devoted to basic tasks can ledgers, statistical forms, and vouchers be standardized and normalized, ahd further disorder be prevented following this reorganization. The reorganization should be constructive in nature, improvements being sought through the reorganization.

In order to consolidate the fruits of the reorganization, communes and brigades will have to be helped manage money matters democratically. A money management committee consisting mostly of commune member representatives and attended by commune and brigade cadres and financial accounting presonnel should be established. Democratic money management campaigns should be regularly carried out. Various ledgers central maintained by the collective, as well as withholdings from operations by individual households should be publicly posted or announced orally so that financial work will be under the scrutiny of the masses.

Regardless of the pace of financial reorganization, leadership should be strengthened, attantion devoted to the training of accounting personnel, inspection and examination prior to accptance firmly grasped, and consolidation and upgrading attended to.

State Council Document No 10 pointed out that "People's governments at all levels must conscientiously reorganize commune and brigade finances, halt losses, waste, and corruption, and improve economic effectiveness as a matter of importance in present rural work that is to be placed on their daily agendas and linked to perfection of production responsibility systems. They are to launch economic diversification and other kinds of rural work and, under the centralized leadership and centralized deployment of CPC committees at all levels, they are to conscientiously and unflaggingly continue to do a solid job in order to achieve anticipated results." We are determined to reorganize finances in accordance with this demand to make a contribution to steady improvement in commune and brigade economic effectiveness.

9432
CSO: 4007/30

CONTROL OF YELLOW DWARF DISEASE OF WHEAT DISCUSSED

Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 8, Sep 82 p 18

[Article by Qian Youning [6929 1635 1380]: "Yellow Dwarf Disease of Wheat"]

[Text] Yellow dwarf disease is the major wheat disease in China.

It occurs in all provinces. This disease damages mostly wheat, barley, naked oats, and broom corn millet, and it can cause serious damage to wheat. In 1970, for example, as a result of yellow dwarf disease, the provinces of Shaanxi, Gansu, and Ningxia had a reduction in output of about 1 billion jin. Wheat dwarf disease virus granules are spherical polyhedrons with a diameter of 26 millimicrons (a millimicron being one one-billionth of a meter), and they can be spread only by aphids. In China maiercha aphids [7796 0059 0643 5742], wheat aphids [macrosiphum avenae (Fabricus)], yiguan aphids [4898 4619 5742], and wuwang cangguan aphids [3541 4853 7022 4619 5742], can spread them. The most powerful carrier is wheat aphids [macrosiphum avenae]. When the piercing and sucking mouth of wheat aphids penetrates the leaves and stems of diseased plants to suck out the juices, it takes only 30 minutes of sucking for wheat aphids to contract the virus. A wheat aphid carrying wheat dwarf disease can then transmit the virus to uninfected wheat by feeding on it for from 5 to 10 minutes. Happily the viruses cannot reproduce within the aphids' bodies, nor can the aphids pass the virus along to succeeding generations. Only by feeding on diseased plants themselves can newly born aphids contract the virus. This eases the problem of controlling this disease.

Once wheat contracts yellow dwarf disease, the tips of the leaves begin to turn yellow first. The yellowing follows the veins in the leaves, producing alternating yellow and green stripes on the leaves and gradually progressing to one-third to one-half of the leaf surface. The leaves become thick, hard, stiff, and upright. If the disease is contracted during the seedling stage, in serious cases the seedlings die during the period of greening up the following year. If the infection is light, the seedlings do not die, but the disease continues to develop in new leaves; tillering is reduced; serious dwarfing occurs; and there is either no spiking or else spikes are very small. If the disease is contracted during greening up or during the jointing stage, the leaves of infected plants gradually turn yellow from bottom to top. During the booting stage, from one-third to one-half of the surface of boot leaves of infected plants turn bright yellow, and the other leaves gradually turn yellow from top to bottom. Spikes depend mostly on leaves for nourishment, and boot leaves are the principal source of nutrients for spikes. So after the leaves turn yellow, the effect on yields is very great. Though plants infected during the late stage of their growth are able to form spikes, grains are blighted. Whether or not leaves of wheat plants infected with dwarf disease turn yellow has a lot to do with temperatures. When temperatures are between 15 and 20 degrees centigrade, incidence of disease is apparent, but when temperatures are above 25 degrees centigrade, there is no outbreak of the disease even though the wheat plants carry the virus. This is called latent infection. Once temperatures drop to between 15 and 20 degrees centigrade, the disease can break out.

Inasmuch as yellow dwarf disease if wheat is transmitted by aphids, the spread and degree of seriousness of this disease is closely related to the migration of aphids. When the wheat ripens and is harvested, the aphids that transmit the wheat yellow dwarf virus can no longer find sufficient nourishment, and large numbers of winged aphids then fly to their summer hosts, which are corn, gaoliang, broom corn millet, millet, paddy rice, wild-growing wheat, and numerous other plants of the grass family. However, these hosts are not necessarily hosts for the wheat dwarf virus. Only certain varieties of corn, wild wheat seedlings and grasses such as broom grass, oats, dalingfeng grass [1129 0407 7364 5430], huamei grass [3973 4168 5430], and huwei grass [5706 1442 5430] are hosts for yellow dwarf virus. When the winter wheat sown in autumn sprouts, the virus infected wheat aphids fly back from their summer hosts, spreading the virus to the wheat again so that it continues to spread.

Numbers of wheat aphids are related to temperature and humidity. Generally when October average temperatures are high and there is little rainfall, and when average temperatures during the following January and February are high with no "return to cold in spring" during March and April, conditions favor outbreaks of wheat aphids. Practice has shown that in years of serious infestations of wheat aphids [macrosiphum avenae], incidence of yellow dward disease is also great.

Control of wheat yellow dwarf disease depends mostly on prevention and all-around control. First is breeding of disease tolerant superior varieties. None of the wheat varieties currently in use has been found to be immune; they are only relatively disease resistant or disease tolerant. In general, most local peasant varieties are fairly resistant or tolerant of the disease. Second is control of aphids to prevent disease. This is currently the principal method used to control yellow dwarf disease. For early sown wheatfields in winter wheat growing areas, 3911 [phorate] may be mixed into the seeds, between 0.2 and 0.3 jin of 75 percent 3911 being used per 100 jin of wheat seeds. Between 6 and 8 jin of water should be added and stirred evenly. After mixing, the seeds should be piled and covered for 12 hours. This pesticide remains effective for about 35 days. 3911 is an intensely poisonous pesticide, so the safety of people and animals should be watched when it is used. In years when yellow dwarf disease is at normal levels, after mixing the seeds, there is no need to control aphids before the onset of winter. However, if temperatures are fairly high, the weather dry, and the incidence of wheat aphids more than between 10 and 15 per 100 wheat plan plants, spraying should be done once. Between the time when the wheat greens up and the jointing stage, control of aphids should be done once or twice more to control the spread of wheat yellow dwarf disease. Depending on the aphid situation in spring wheat growing areas, benefits frmm spraying of insecticides in early to mid May are fairly good. Insecticides that may be used include the following: a 1000 - 1500 part solution of dimethoate emulsion, a 200 - 300 part solution of 50 percent 1605 [parathion] emulsion, or alternatively 1 percent 1605 powder or 1.5 percent dimethoate powder, spraying 3 jin per mu. In addition, seeds should be sown at the right time, winter watering done, the ground compacted before the onset of winter, the ground harrowed after greening up has taken place, and tending with nightsoil intensified. All these things help reduce damage caused by yellow dwarf disease.

9432
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ANHUI

WAYS TO LOWER FARMING COSTS ILLUSTRATED

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL AFFAIRS] in Chinese No 10, 6 Oct 82 pp 28-30

[Article by Zhang Chuanquan [1728 0278 2938]: "Potential Still Great For Lowering Production Expenses--A Survey of Xiaowu Production Team's Production Expenses"]

> [Text] Editor's Note: The survey of Xiaowu Production Team's production expenses is representative, and merits the attention of all. After this production team instituted agricultural production systems of responsibility, production developed, income increased, and benefits from investment markedly improved. However, potential for increased output and savings is still great. All that is needed is a strengthening of leadership, good organization to pass on technical skills, help to commune members to take good care of their plow oxen and water conservancy, and good organization of the supply of means of production for use in agriculture, and it will be possible to lower production expenditures stil further and greatly increase results from investment.

Xiaowu Production Team in Fangqing Production Brigade, Liupu Commune, in Dingyuan County, Anhui Province has 139 people in 26 households and 480 mu of cultivated land. The land is fairly fertile, and water conservancy conditions are rather good.

Comparison of 1981 with 1977 shows grain output totaling 258,000 jin, up 40.6 percent; oil-bearing crop output totaling 28,300 jin, up 5.9 fold; ginned cotton output totaling 1,800 jin, down 29 percent; gross earnings from agriculture amounting to 53,000 yuan, up 118.7 percent; and production expenses of 8,520, up 76 percent. Production expenses as a proportion of gross income fell from 20 percent in 1977 to 16.1 percent. For each yuan of investment an output value of 6.20 yuan was created, a 24 percent increase. Production expenses were 17.8 yuan per mu, up 77 percent. Output value was 110.40 yuan per mu, up 118.6 percent.

These figures show that since this production team instituted production responsibility systems, agricultural income has increased, production expenses have decreased, economic effectiveness has risen, and results have been outstanding. However, a look at the survey shows that the rise in this production team's economic effectiveness is still along way from peaking, and potential for both increases in output and savings is still very great.

1. Careless and reckless use of chemical fertilizers. In 1981 this production team used 28,400 jin of chemical fertilizer, 3.03 times the amount used in 1977, the average amount used rising from 19.5 jin per mu to 59 jin per mu. Some commune members figures on "making a fat man with one bite" and applied too much chemical fertilizer, with the result that crops remained in the vegetative growth stage, ripened late, lodged, and produced decreased yields. Some other commune members gave no thought to the soil's need for nitrogen, phosphate or potash, simply scattering fertilizer on the fields when they had it, with the result that much money was spent for no increase in yields.

2. Commune members rarely bought chemical fertilizer at parity price; they had to buy it at negotiated prices. High-priced fertilizer increased production expenses additionally. Take the case of just phosphate fertilizer as an example. Last year this production team used 9,700 jin of phosphate fertilizer, of which only 700 jin was bought at parity price at a per unit cost of 0.066 yuan. It bought 4,000 jin at negotiated prices at a per unit cost of 0.092 yuan. Yet another 5,000 jin was bought from private individuals at the high per unit price of 0.10 yuan. Last year this production team used a total of 28,360 jin of chemical fertilizer, of which only 3,800 jin, or 13.4 percent was bought at the parity price, the remainder being purchased at negotiated prices or high prices. Had all the fertilizer been purchased at parity price, a saving of 459.60 yuan would have been realized from this action alone, the decrease in expenses averaging 0.96 yuan per mu.

3. Seed waste, Seeds were soaked without rhyme or reason, particularly for paddy rice. Some people one-sidedly stressed "buy seeds if money is available; buy seedlings when money is not available," excessively increasing the amount of seeds that were soaked. Last year this production team planted 230 mu of paddy for which it used 9,240 jin of seeds, or an average of 40 jin per mu. The first batch of seedlings that commune member Wang Benfu [3076 2609 0102] grew was more than enough, but he was still concerned, so he soaked another 120 jin of rice to grow more seedlings, not a single plant of which was used, the entire amount being wasted.

This shows that potential for increasing economic effectiveness and lowering production expenses is still very great. Of course, in order to lower production expenses, first it is necessary to try to increase output; absolutely no saving of necessary expenses can be made without impairing increases in yields. What is needed is to avoid or reduce any further waste of production expenses. The situation in Xiaowu Production Team shows a need to solve the following several problems:

1. Raise the technical levels of all commune members. The technical quality of commune members has a very great bearing on growth of production and improvement of economic effectiveness. Grassroots party organizations and scientific and technical departments should vigorously publicize and popularize scientific agricultural knowledge; they should organize agricultural technical guidance teams to go into frontier and mountain regions to publicize and give guidance. When selling chemical fertilizers or pesticides, supply and marketing departments should explain to the masses, or print and distribute instructions on the characteristics and methods of using goods such as chemical fertilizer so that the masses can adapt general methods to specific circumstances to apply the right amount skilfully. In addition, greater use of barnyard manure and green manure should be vigorously advocated to improve the soil and increase its fertility to get large results while saving on expenses.

2. Strict water use system with drawing up of water use agreements. A comrade who is devoted to duty and conscientious about responsibilities should be selected to be in charge of water, and a water management responsibility system should be established. Those who do a good job of water management should be appropriately rewarded, and thos who do a bad job should have their remuneration reduced. Commune members should be indoctrinated in mutual help, friendship, and solidarity in the use of water.

3. Encouragement to commune members to form associations of households to riase oxen and use oxen to reduce the watse of draft animal power. Before this production team instituted responsibility systems, it had 11 oxen seven of which satisfied needs for draft animals. Now the number has grown to 20, of which 14 are used. Commune members Jiang Jiarong [5592 1867 2837] and Wu Liding [0702 4539 7307] each have a family of eight and 30 mu of land on which each family uses one large male ox, when an ox can really plow about 70 mu of land. In both families the oxen work half the time and are idle half the time. Figured on the basis of an annual 80 to 100 yuan depreciation per ox per year at prevailing prices for oxen, this means a very great increase in expenses, and it is also a very great waste. Nowadays three or four fellows also use a single ox. Practice has shown that when responsibilities are clear, matters can be managed well. Commune members should form associations of households on the basis of land area to be famred to raise and use oxen, so that everything is used to the full and unnecessary waste is reduced.

4. Agreements should cover the chemical fertilizer that the state supplies peasants, and these agreements should be honored. When violations of agreements occur, the reasons should be found and economic responsibility assigned. It is forbidden to make chemical fertilizer into "cadre fertilizer," or "backdoor fertilizer." The peasants' interests may not be damaged.

9432
CSO: 4007/30

SUCCESS REPORTED IN RURAL ECONOMIC DIVERSIFICATION

Lanzhou GANSU RIBAO in Chinese 7 Sep 82 p 2

[Article: "Great Development of Economic Diversification"]

[Text] In the process of carrying out a program of "positively no relaxation of grain production while actively developing economic diversification" in the wake of the Third Plenary Session of the 11th Party Central Committee, all jurisdictions in Gansu Province have made the most of strengths while avoiding weaknesses, and have made the most of individual advantages, thereby effecting changes in the internal structure of agriculture. Following institution of production responsibility systems largely of the kind in which there is large scale assigament of responsibilities, in particular, both collectives and individuals have moved ahead, attention has been devoted to matters both large and small, and a new situation of great development of economic diversification has taken place.

Statistics provided by departments concerned show that despite natural disasters to agriculture during 1981, including drought and waterlogging which reduced grain and oil-bearing crop outputs, output value of economic diversification increased by 15 percent over 1980, reaching 104 million yuan. Not only did it make up for losses sustained as a result of decline in grain and oil-bearing crop outputs, but it also resulted in a net increase in gross output value of agriculture for the province as a whole of 11.65 million yuan. Output value of economic diversification as a ratio of gross output value of agriculture rose from 37.3 percent in 1978 to about 45 percent. A survey of earnings of 420 commune member households showed that in Gansu Province commune member family net earnings from household sideline occupations averaged 52.44 yuan, a more than twofold increase over 1978.

An economic diversification developed, commune member cash income increased. Rural savings accounts in 1981 were 170 percent larger than in 1980, and volume of country fair market transcations increased by 28 percent over 1980. For the first half of this year volume grew another 20 percent over the same period last year.

During the first half of this year, new growth took place in economic diversification throughout the province. For commune and brigade enterprises alone, earnings for the first half of the year reached 131.87 million yuan, 38.9 percent more than for the same period last year.

Results of Diversification of Farming

Gansu covers a vast area, has a complex topography, and climatic variations are great, suiting it to the growing of all kinds of cash crops. During the past 3 years, with the liberation of rural economic policies all jurisdictions have reversed the trend toward a single grain crop economy to place both economic diversification and the growing of grain crops in an important position. They have surveyed resources, formulated plans, and vigorously developed farming. A considerable number of communes and brigades have formed, or are in process of forming, commodity production bases for cotton, oil-bearing crops, sugarbeets, balck wood fungus, tea, raw lacquer, almonds, roses, lilies, daylilies, black and while watermelon seeds, silkworm mulberry, sunflowers, and medicinal herbs. Fairly rapid development has taken place in the growing of cotton, oil-bearing crops, sugarbeets, sunflowers, wood fungus, raw lacquer, tea, medicinal herbs and tobacco. Production of local specialties such as walnuts, daylilies, red dates, roses, almonds, and black and white watermelon seeds has also revived and developed.

Data from statistical departments shows the following:

Item	1981 Gross Output (Million Jin)	1978 Gross Output (Million Jin)	Proportional Increase (%)
Cotton	7.98	6.74	18%
Oil-bearing Crops	190.87	155.81	23%
Sugarbeets	212.32	116.25	83%
Sunflower Seeds	544.6	161.5	2.3 fold
Black Wood Fungus	.110,990	830.39	34%
Raw Lacquer	.155,992	735.86	1.1 fold
Tea	.104,491	450.26	1.3 fold
Medicinal Herbs	30.28	22.59	34%
Tobacco	15.7	9.65	63%
Vegetables	546.24	493.94	11%

New Advances by Commune and Brigade Enterprises

During the past 3 years the province's commune and brigade enterprises have carried out a program of readjustment. Readjustments and conversion of production has been done in enterprises for which raw materials cannot be assured, whoes products do not sell, and whose technology does not pass muster. Following readjustment, 15,105 existing commune and brigade enterprises in the province have strengthened management, and 90 percent of enterprises have established systems of responsibility whereby calculation of compensation is linked to production, solving the problem of eating out of a large common pot. This year a new situation of great development of commune and brigade enterprises has occured.

Statistics from the Provincial Commune and Brigade Enterprises Administration show that in 1981 gross income for the province's commune and brigade enterprises amounted to 327.86 million yuan. This was 17.3 percent of income in the three-tier rural economy, and a 1.55 percent of income over 1978. It averaged 19.87 yuan per capita of rural population. In Lanzhou, where commune and brigade enterprises have grown fairly rapidly, in 1981 gross output value was 96.31 million, 33 percent more than in 1978. Gross income was 38 percent of gross income from the city's agriculture, 9 percent more than in 1978. Income averaged 40 yuan per capita of rural population. Revenues paid during a 3 year period amounted to 8.79 million yuan, 3.3 times the state investment in commune and brigade enterprises. During the first half of this year, throughout the province commune and brigade earnings increased month by month, income increasing 38.9 percent over the same period last year. Lanzhou City has had earnings of 51.21 million yuan, up 62.9 percent from the same period last yearfor 50.2 percent fulfillment of this year's plan. The city has fulfilled more than half its quota in more than half the alloted time. Practice has shown that commune and brigade enterprises have developed into a strong pillar of the rural economy. Their development supplements shortages in state plans, augments market needs, and supports the building of cities.

High Benefits From Concentrated Investment

The province's new situation of great development of economic diversification could not have taken place without the energetic support that the state has provided.

Statistics from provincial financial departments show that during the past 3 years state and local treasuries have invested a total of more than 48 million yuan in development of economically diversified production. This investment has been made through the supply and marketing, agriculture, animal husbandry, forestry, and commune and brigade enterprise system, and has been concentrated in each area in a planned way with certain objectives in mind for the building of economically diversified commodity bases. This has been a change from the past method of "scattering shots" without regard for benefits to be derived from investment. Initial results have been received from construction in more than 20 counties, with the direct support of the supply and marketing system, of commodity bases for black wood fungus, day lilies, melons and fruits, black and white watermelon seeds, citrus fruits, and bailan melons [4101 5695 3900].

The animal husbandry system has supported the building of 371 superior breed ox frozen semen sites, and has purchased 25 frozen semen liquid nitrogen transportation vehicles for the sites. During the first half of this year alone, these sites have helped in the breeding of more than 26,000 oxen. The same system supported more than 220,000 hardship households in the raising of more than 300,000 sheep, 130,000 chickens, and more than 44,000 head of large livestock animals of various kinds.

Over a 2 year period, the forestry system supported communes and brigades in the afforestation of 1.08 million mu, in the growing of 97,900 saplings, and in the growing of 50,000 mu of firewood forests.

The Commune and Brigade Enterprises Administration concentrated investment on preparations for construction of a monosodium glutamate plant in Tongwei County, a furfural plant in Shuangshu Commune, Wuwei County, a paper manufacturing plant in Sanjiaocheng Commune in Yuazhong, and mixed livestock feed plants in Quanhu Commune in Jiuquan County, and in Dongba and Zhongdong communes in Jinta County. A cold storage plant has been built and has begun operating a Shanhe Commune in Zhengning County with marked economic benefit. Last July, following operation of the Shanhe Commune cold storage plant, 25 tons of rabbit meat were stored in it during the same year, and commune members earned more than 200,000 yuan from sales of rabbits. Thus local "difficulties in selling rabbits" were solved, which the peasants very much appreciated.

9432
CSO: 4007/28

WHEAT, COTTON YIELDS, COMMODITY RATES INCREASE

Beijing ZHONGGUO NONGMIN BAO in Chinese 14 Oct 82 p 1

[Article: "Changed Situation in Henan's Low and Medium Yield Areas; Continuous Increases in Wheat and Cotton Yields and Rapid Increase in Commodity Rates"]

[Text] Serious attention on the part of the Henan Provincial CPC Committee and provincial government to the medium and low yield areas that make up two-thirds of the province has advanced all-around balanced increases in output, and commodity rates have also risen very rapidly.

There are 72 counties in Henan Province that have grain yields of less than 600 jin per mu and where average per capita earnings are less than 100 yuan. These medium and low yield areas have small populations relative to available land, and potential for increased yields is very great. In 1978, the Henan Provincial CPC Committee and the provincial government made a series of decisions for hastening change in medium and low yield areas that spurred these areas to remarkable changes within the short period of 3 years.

In the four prefectures of Nanyang, Zhoukou, Zhumadian, and Xinyang, this year's summer grain output reached 11.4 billion jin for an annual increase during the past 3 years averaging 1.48 billion jin. Wheat output in these four prefectures as a ratio of total summer grain output for the province as a whole rose from 31 percent in 1978 to 48 percent this year. Medium and low yield area cotton production also developed very rapidly. In 1980, in Zhoukou and Kaifeng prefectures, cotton yields broke the 100 jin per mu mark. The province has a cotton growing area of 100,000 mu, and of the province's 31 counties with yields of more than 100 jin per mu, formerly 22 had yields of only 30 to 50 jin per mu. Fugou County in Huangfan Prefecture formerly had a single crop economy and commune members' lives were hard. During the past 3 years grain and cotton have developed simultaneously, and last year cotton yields averaged 132 jin per mu on 293,000 mu, while grain output increased by 20 million jin over 1978.

Bumper agricultural harvests have sparked development of forestry, livestock raising, and sideline occupations, and has increased economic income. Last year distributions from the collective to commune members in the county increased from an average 62 yuan per capita in 1978 to 176 yuan.

Following the increase in output from medium and low yield areas, commodity rates also rose rapidly. This year six counties turned over more than 100 million jin of wheat to the state, 26 counties turned over more than 50 million jin; 21 communes turned over more than 10 million jin; 40 production brigades turned over more than 1 million jin; and there were 220 peasant households that turned over more than 10,000 jin, an overwhelming majority in the former medium and low yield areas.

9432
CSO: 4007/28

WHEAT PLANTING SUBSTANTIALLY COMPLETED IN YAN'AN PREFECTURE

Xian SHAANXI RIBAO in Chinese 19 Sep 82 p 1

[Article: "Nearly 1 Million Mu of Wheat Planted in Yan'an Prefecture. Spirit of 12th Party Central Committee Spurs Peasants To Do a Good Job of Autumn Sowing"]

[Text] The call issued by the 12th Party Central Committee for an all-around socialist economic upsurge has spurred the peasant masses in Yan'an Prefecture to do a good job of current autumn sowing work. Now planting of 127,000 mu of rape has been completed in the province, and as of 15 September more than 970,000 mu of wheat had been planted, including the planting of 510,000 mu of the prefecture's 1 million mu of high yield fields. Yan'an Prefecture planned to increase the area sown to autumn wheat to 1.8 million mu this year, placing emphasis on 1 million mu of high yield fields with a "three fertilizer base that boom." for new breakthroughs next year in wheat output. The prefecture, counties, and communes took a firm grip on preparations for sowing. Throughout the prefecture wheatfields were summer plowed, 1.4 million mu being plowed twice. The area plowed was larger than last year; plowing was done earlier, and harrowing and raking was done carefully. In addition to the considerable amount of mud fertilizer prepared for the wheatfields, more than 23,000 tons of nitrogenous and phosphate fertilizer was made ready. This was more than 8,000 tons more than last year. Commune members exchanged superior varieties among themselves, and seed departments at all levels additionally prepared 8.5 million jin of seeds, which was more than in former years. The prefecture trained more than 30,000 technical personnel for wheat and rape farming, and set up nearly 10,000 science and technology households for the production of wheat and rape. County cadres now in rural villages number more than 2,000. They are propagandizing the spirit of the 12th Party Central Committee, and organizing the masses to do a crash job of planting during the favorable time when the sun has come out after continuously overcast and rainy weather. The wheat seedlings that were planted earlier have begun to appear in green rows.

9432
CSO: 4007/26

SUPERIOR WHEAT VARIETIES SUITED TO SHAANXI LISTED

Xian SHAANXI RIBAO in Chinese 19 Sep 82 p 1

[Article: "Superior Wheat Varieties Suitable For Growing in Shaanxi Province"]

[Text] Wheat varieties that do rather well in production in Shaanxi Province and that are suited to the central Shaanxi irrigated region are the following: Xiaoyan No 6, Zhengyin No 1, Xiannong 151, and Abo. Suited to the eastern part of the dry plain to the north of the Wei are the following varieties: Shaanhe No 6, and Weimai No 4; suited for growing in the central section of the province are: 7125, 404, and 4.01. Suited for growing in the western part of the province are Zhengzhou 522, Fengchan No 3 Selected Line, Baolin No 9, Shaanzao No 1, and Wunong 132. Suited to Chuandao Prefecture in southern Shaanxi are Abo, Fanliu, 70 (45), and 6601. Suited to Yan'an Prefecture is No 3. Suited to Yulin Prefecture as winter wheat are Beijing No 10, Nongda 139, and Dongfanghong No 3. All areas may make selections of varieties to be used by adapting general methods to local conditions.

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BRIEFS

AUTUMN WHEAT SOWING--Inspired on by the spirit of the 12th Party Central Committee, the Weinan Prefecture State Farm and Land Reclamation Bureau has taken firmly in hand work preparatory to the sowing of autumn wheat. As of 7 September, the four state-owned farms in the bureau, Huayin, Shayuan, Chaoyi, and Dali, have made the most of good weather and struggled against rainy, overcast weather to complete plowing within only a week of more than 80,000 mu of land reserved for the growing of wheat that had not yet been plowed or planted, plowing more than 10,000 mu each day. Most of it has also been readied for planting. The Chaoyi Farm flour mill took responsibility for seed selection for the 11 vocational stations throughout the farm. They surmounted difficulties resulting from irregular supply of electricity, and by 6 September completed the task of selecting 2.2 million jin of wheat seeds, 15 days earlier than had originally been planned. The more than 6 million jin of wheat seeds required by the farm have been made ready. More than 200 tractors, and more than 160 seed sowing machines have been substantially checked and repaired. Two thousand eight hundred tons of chemical fertilizer have also been hauled in. [Text] [Xian SHAANXI RIBAO in Chinese 16 Sep 82 p 11] 9432

CSO: 4007/26

YANTAI PLANTS ENLARGED AUTUMN WHEATFIELDS ON TIME

Jinan DAZHONG RIBAO in Chinese 25 Sep 82 p 1

[Article: "Yantai Prefecture Plants Enlarged Autumn Wheatfields On Time. Continues Struggle Against Drought Under Inspiration of Spirit of 12th Party Central Committee"]

[Text] Under the inspiration of the spirit of the 12th Party Central Committee, the broad masses of cadres and people in Yantai Prefecture have continued to carry out a deepgoing struggle against drought, using every available means to plant a sufficient amount of wheat well so as to create conditions for bringing in a bumper harvest in agriculture next year.

This prefecture has had 5 consecutive years of drought, and though it rained several times this year, precipitation was spread unevenly, and 10 counties and municipalities gained no relief from the drought. The drought has gone on for the past 9 months, and even in several counties where rainfall had been fairly great, drought has set in making it extremely difficult to do fall sowing.

In the process of studying 12th Party Central Committee documents, the Yantai Prefecture CPC Committee related study to realities in a discussion of the problem of hastening development of agriculture. They believe that Yantai Prefecture should realize ahead of time the strategic objective proposed by the CPC Central Committee of tripling gross output value of agriculture before the end of this century. In order to realize this objective, the great spirit of the 12th Party Central Committee must be the driving force, and a good basis has to be layed for achieving a bumper summer harvest next year by starting now to struggle against drought to plant a sufficient amount of wheat well. The prefecture decided that the fall planted area this year should be enlarged by from 20 to 30 percent over last year's 6.3 million mu.

In order to do a good job of fall planting this year, comrades in charge at all levels of the party and government assigned full responsibility for task completion on individual tracts in a system of responsibility. Throughout the prefecture more than 12,000 cadres were organized to go to the frontlines to take charge of the three autumn production jobs [harvesting, plowing, and sowing]. There they took the lead in propagandizing the great spirit of the 12th Party Central Committee and in building confidence in the fight against drought. They devoted attention to bumper yield plots, did a good job of planting ordinary fields, assigned workforces in a rational way, accelerated building of water conservancy projects, and did everything possible to provide more sources of water to fight drought.

While fighting drought to do fall planting, inasmuch as the harvesting of crops had been delayed this year, Yantai Prefecture adapted general methods to local situations to take commensurate steps, to race against time, to seize the initiative, and to sow as early as practicable. They harvested, fought drought to create soil moisture, plowed, harrowed, and sowed all at the same time. They parted from past sole reliance on machine methods to use a combination of manpower, machinery, and draft animals. All counties proceeded from the drought situation and proceeded from the need to make commensurate changes in the farming system increase the planting of wheat in large furrows.

In fighting drought to do autumn sowing, this prefecture instituted specialized contracting responsibility systems centralized in several ways as key measures. More than 9,800 production brigades in the prefecture instituted wheat production systems of responsibility, more than 6,600 of them instituting specialized contracting systems specialized in several ways. This amounted to 67 percent of all brigades. As of 23 September, the prefecture had sown more than 1.5 million mu of wheat, more than 500,000 mu more than during the same period last year.

9432
CSO: 4007/26

SHANDONG

TAIAN PREFECTURE COMPLETES WHEAT PLANTING

Jinan DAZHONG RIBAO in Chinese 2 Oct 82 p 1

[Article: "Taian Prefecture Fulfills Wheat Sowing Plans on Time. Great Spirit of 12th Party Central Committee Stirs Enthusiasm of Masses. Following Completion of Autumn Planting, Shouguang County Seizes Opportunity to Inspect Seedlings and Augment Plantings to Assure a Full Stand of Seedlings"]

[Excerpt] As of 29 September, except for some wheatfields to be planted to a late crop, and some where planting is to be expanded, planting of a planned 3.5 million mu of wheat in Taian Prefecture had been completed on time. Quality of sowing was better than last year.

During the planting season, the Taian Prefecture CPC Committee and government administrative offices organized 4,100 cadres at all levels to go down to the grassroots to lead the broad masses of commune members in study of documents from the 12th Party Central Committee, and to use the spirit of the 12th Party Central Committee to guide the planting of wheat. As a result of study of 12th Party Central Committee documents, cadres and commune members in Dongping County understood the magnificant objectives and strategically key points for the future, which has tremendously stirred their enthusiasm for the planting of wheat.

After fulfilling plans for the sowing of 350,000 mu of wheat, the county revised its planting plans and got ready to sow an additional 50,000 mu. Laifu County cadres and commune members, their minds filled with the magnificent objectives, took firm hold of current production, and improved quality of wheat sowing. While selecting superior varieties and applying sufficient base fertilizer, they zeroed in on the dry weather and the serious lack of soil moisture in the fields using every available means to bring up soil mositure or create soil moisture until they got sufficient moisture for planting. At a previous time, some commune members in Taian County were apprehensive about changes that might take place in the system of responsibility of "double contracting" [household contracting of fixed output quotas and responsibility for task completion]. They did not want to put in more work or add fertilizer to the wheatfields. But after reading Comrade Hu Yaobang's report to the 12th Party Central Committee on establishment of various forms of rural production responsibility systems and the need to maintain them for a long period of time, their minds were at ease, and they applied sufficient base fertilizer without worry and planted wheat well to get increased yields. As of 29 September the entire county had completed the high quality sowing of 480,000 mu of wheat.

9432
CSO: 4007/26

AUTHOR: JIANG Dehua [1203 1795 5378]

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TITLE: "On a Suitable Concentration of Economic Crops"

SOURCE: Beijing NONGYE BUJU YU QUHUA [AGRICULTURAL DISTRIBUTION AND ZONING] in Chinese Mar 82 pp 208-214

ABSTRACT: The principle underscoring the practice of regional specialization of economic crops is to cultivate crop to suit the land. Under this principle, the condition influencing the distribution of economic crops must be concretely analyzed to resolve the problem of the extent of possible concentration in the region suitable for a given economic crop. The paper proceeds to analyse the natural, economic, and distribution characteristics of rubber, sugar cane, cotton, rapeseed, and kenaf [ambary.] The major problems in the arrangement of economic crops in China include a gradual reduction of scattered acreage, primarily due to competition of land between grains and economic crops. In view of these problems, the natural condition of a given region should be the first consideration.in so far as whether it is more suitable for grains or more suitable for a given economic crop. In order to ascertain the proper degree of concentration, 2 types of indices may be used: (1) The absolute index, reflecting the percentage of an economic crop in the total cultivated acreage. For example, the 144,000 mu of cotton in Hua County of Henan amount to 8.3 percent of cultivated land; the 75,000 mu of cotton of Qi County of Henan amount to 20.8 percent, qualifying the latter as a region of concentrated cotton production. (2) The relative index, expressed by computing the ratio of an

[continuation of NONGYE BUJU YU QUHUA Mar 82 pp 208-214]

economic crop in the cultivated acreage, the rate of commercial products in the crop, the price structure of the product, the labor structure, and the investment structure. A mathematical model is provided to compute the suitable ratio of cotton in the cultivated acreage from the known data of A-the cultivated acreage, P-the farming population, A_p-the per capita cultivated land, G-the unit yield of grain, G_p-the per capita grain consumption, G_s-the rate of self-sufficiency of grain, I-the unit yield of cotton, I_s- the amount of cotton production retained by individuals, I_c- the rate of commercial cotton, R-the acreage of crops other than grains and cotton, N-the rotation cycle of the cotton crop. The method of using the mathematical model to compute the theoretical [optimal] ratio of cotton in the cultivated acreage is explained. Through a comparison between the theoretical ratio and the actual ratio, it will be easy to decide whether a region is overly concentrated on cotton production or whether the cotton acreage should be expanded to take advantage of the cotton production potential. The mathematical model concerns the existing material foundation for a given economic crop, which the paper refers to as its technical and economic conditions. The natural conditions for the crop are implied but not specifically contained in the equations because, as the paper states, the nautral conditions conducive to economic crops are usually conducive to grain crops also. [This argument appears to contradict directly with the reasoning of the first chapter of the paper.]

6248
CSO: 4011/31

AUTHOR: SHI Penggao [4258 7720 4108]
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TITLE: "Weather Condition for Prevalence of Scab Fungus and Long Term Forecasting"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 9, 10 Sep 82 pp 25-27

ABSTRACT: Wheat scab disease is a worldwide disease related to the weather. In central and southern Hubei, especially on the banks of lakes and rivers, its incidence is high and damage severe. Based upon etio-biological and epidemiological data of this disease, the paper proceeds with a comprehensive analysis of the condition of weather during the crop development period, especially the stage when the wheat is sensitive to the disease. A large number of artificial inoculation tests proved that wheat is the most susceptible to scab during the blooming stage and left-over pollens form the bridge to infect the wheat spike. Rainy weather during the blooming stage encourages scab spores to invade the wheat and if high humidity is maintained for 36 hours under 25°C, the spikes will be infected. Following an extensive analysis of meteorological factors, the paper concludes that in Hubei, the period of middle Apr to middle May is the susceptible stage of wheat and proposes a 3-factor (quantity of rain, number of rainy days, and hours of sunlight) index of the period to be used to forecast the severity of scab. The validity of the forecast is, of course, determined by correct forecast of the 3 meteorological factors.

AUTHOR: WU Yongfang [0702 3057 5364]
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ORG: None

TITLE: "Severe Drought in Northeast and Northwest and an Overabundance of Precipitation in North China and South of Changjiang--June 1982"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 9, 10 Sep 82 pp 45-47

ABSTRACT: This is the column "Monthly Weather" for Jun 82, prefaced by a general description of the weather conditions of the various parts of China. In Northeast and Northwest, the dry weather of the previous period persisted throughout the month of Jun, with rainfalls less than 40 mm, about 60-80 percent below normal. The temperature was abnormally high to cause the drought to be further aggravated. In Hebei, Shandong, and N. Jiangsu, rainfalls reached 60-170 mm, 10-50 percent more than normal. In central Hunan and central Jiangxi, the rainfalls reached 300-500 mm, also 10-50 percent above normal. There were 3 typhoons in Jun, 1.2 more than normal, but not a single one reached the China coast. The above general description of the month is followed by analyses of the circulation characteristics, the cold vortex process in N. China, and the continuous rainstorm weather of the region south of the Yangzi River.

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END

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I. GENERAL INFORMATION

OFFICIAL ON CHINA'S AGRICULTURAL POLICIES

OW241222 Beijing XINHUA in English 1129 GMT 24 Nov 82

[Text] Beijing, 24 Nov (XINHUA)--Agricultural taxes will not increase when Chinese peasants achieve better harvests. This is a basic policy of China's to boost agricultural growth, a senior official of the Ministry of Agriculture, Animal Husbandry and Fishery said today.

Liu Jinmin, a deputy bureau director of the ministry, said that in 1981, such taxes accounted for 2.93 percent of the nation's agricultural income, compared to approximately 12 percent in the early 1950's. He is taking charge of an international symposium on integrated rural development now held jointly by the Chinese Government and the United Nations Development Program in Huangxian County, Shandong Province.

Agriculture is the foundation of the national economy, Liu Jinmin said, and as such, had a strategic priority in the country's development plan. The Chinese Government has had a clearer view of this since 1979. Despite financial difficulties over the past few years, annual state allocations for farmland improvement during the 1979-1981 period was more than double the figure for 1966, and 52 times as many as in 1952.

The government since 1950 has cut the prices of chemical fertilizer and insecticide on six occasions and farm machinery on ten occasions. Meanwhile, Liu Jinmin said, the purchasing prices for farm produce had been raised. In 1979, for example, prices for 18 major products including grain, cotton, edible oil and pigs were raised by an average of 24.8 percent.

the increase in the purchasing price of grain was 20 percent, he added. An additional increase of 50 percent had since been granted for grain sold to the state beyond quotas. From 1979 to 1981, Chinese peasants received an extra income of 46,290 million yuan as a result of the increased purchasing prices.

China is a developing country and had limited financial capabilities, Liu Jinmin explained. Eighty percent of its population are concentrated in the countryside. Because of this, it was all the more important for it to rely on the people's initiative for faster economic growth.

While trying to provide peasants with more assistance and benefits, he said, the Chinese Government has adopted new policies since 1979 to boost peasant enthusiasm for production. The use of science to raise output was being encouraged, he said.

The latest policies include:

--More decision-making power to production teams, the basic accounting units of the people's communes. In other words, said Liu Jinmin, production teams now have the power to decide independently on when and where to grow crops best suited to local conditions, and use methods that they think are the best to increase and diversify production.

--The job responsibility system of various forms, under which production is carried out on a household basis, or by individual labourers or smaller but specialized groups. This helps eliminate egalitarianism in distribution, as payment is made according to output.

--More freedom to peasants in their economic activities. Peasants are now encouraged to engage in domestic sideline production provided they fulfill collective production tasks. Plots allocated to peasant households for their private use have been expanded and rural fairs opened everywhere.

CSO: 4020/31

'RENMIN RIBAO' VIEWS ECONOMIC RESULTS IN AGRICULTURE

HK250152 Beijing RENMIN RIBAO in Chinese 20 Nov 82 p 3

[Article by Sun Xupei [1327 2485 1014]: "Results Mean Speed--Sidelights of Discussion on Economic Results in Agriculture Conducted by the Chinese Agroeconomics Society"]

[Text] To attain the strategic objective of quadrupling the gross value of industrial and agricultural production, we should pay special attention to enhancing economic results. Without this prerequisite, speed means nothing.

The 1982 second congress of the Chinese Agroeconomics Society and the academic discussion recently held in Hefei stressed the above view. In a proposal raised by more than 300 participants at the end of the congress, the slogan of "time means wealth and results mean speed" was put forward.

All the experts maintained that economic results refer to the relationship between work achievements and consumption. To attach importance to economic results means that with less investment, we should produce more. In other words, with less material labor and animated labor such as land, capital, manpower and so forth, we should produce as many products as possible and a wealth of agriculture, forestry, animal husbandry and so forth to meet society's demands.

Since the 3d Plenary Session of the 11th CPC Central Committee, the production responsibility system has been extensively implemented. Since then, we have succeeded in eradicating the evils of "great tumult" and "eating out of a big pot." From the angle of production relations, we have enhanced economic results in agriculture. However, due to the influence of long standing habits, the phenomenon of neglecting economic results is still a serious one and can be found here and there. Various manifestations of this were enumerated by comrades who spoke at the meeting:

--Some localities have reaped good harvests. However, there are still poor production brigades and poor peasant households despite the increase in production. This is due to the low results on account of the unitary system of production and irrational economic structures.

--According to figures issued by a certain province, more and more agricultural regions in the province have set up industry. However, one-third of the efforts have been to no avail, because the province failed to find a way out for the superfluous labor force which increased year by year. Since the labor force was not properly used, economic results decreased.

--In one area, the average mechanical power per mu of land reached the world advanced level. However, the peasants' intensity of labor in the farmland remained unchanged because of improper administration and management, which led to low results in the utilization of machinery.

--Some localities cut down a great number of sucarcanes, but were unable to send them to sugar refineries. Some localities caught a large amount of fish, but they spoiled before reaching the consumers' dining tables. This was because of too many barriers and the blocking up of the circulation of commodities. This hampered the act of bringing the role of economic results into full play.

Enhancing economic results is an important question for study and much work ought to be done in order to solve this question. Where should our main efforts be exerted? All the participants maintained that the ideas of "three more and three less" put forth by Du Runsheng, director of the research group for the rural policy of the CPC Central Committee, were sound and to the point: 1) We can produce more grain by cultivating a smaller area of farmland. Ours is a country with a vast population and limited farmland and we have only 1.5 to 2 billion mu of cultivated land. By the year 2000, our grain output will reach 920 to 960 billion jin. To attain this objective, we should enhance the yield per unit area of all our cultivated land to the level of high-yield areas. This means that we should maintain the output of high-yield fields, raise the output of medium-yield fields, reform low-yield fields and do everything possible to enhance the economic results of medium-yield and low-yield fields. 2) We should produce more meat by consuming less grain. At present, we allot 100 billion jin of grain annually as fodder. We cannot afford to allot more grain for this purpose. To produce more pork, beef, mutton, fish, chicken and eggs, we should devote our efforts to the production of mixed fodder. The most important method is to plant more grass. 3) We should get more done with less money. We are now in a period of financial readjustment. It is impossible for the state to allot more money to assist agriculture. Therefore, we should always proceed from reality and refrain from "doing things arbitrarily." Instead, we should "work out plans" before doing something. In so doing, we can avoid wasting money and manpower.

The issue of enhancing economic results reminded some comrades of the former "four modernizations" characterized by the intense concentration of funds and technology. These "four modernizations" mean modernization in machinery, water conservancy, the chemical industry and electric equipment. The comrades sighed with regret because it was difficult to realize these modernizations because of the lack of funds. At the discussion, many comrades said that the former "four modernizations" should be gradually realized. However, at present there are many ways to enhance economic results without investment or too much investment. A delegate from Heilongjiang said that in Hailun County located in the Songnen plain, the output of corn and soybean in 1979 increased by 11.6 million jin and 14.8 million jin respectively because they were transferred from unsuitable to suitable areas. In the past 3 years, the annual output value and net output value of each and every agricultural worker in agriculture and grain output have increased by 18.9 percent, 21.8 percent and 10.4 percent respectively compared with the previous 3 years. This county which was formerly called "a donkey lying on the ground calm and collected" has now stood up and made a gigantic step.

To enhance economic results in agriculture, it won't do to sit idle and engage in talk alone. Practical action is needed. Professor Zhu Dianyu of the Xinjiang 1 August Agricultural Institute talked about strange phenomenon occurring in the production of fruit, eggs and wool. Pears produced in Korla County are well-known. A large quantity of them rotted in the county. However, they are not available on the market of Urumqi. Instead, the municipality had to import pears from Tianjin. Last year, Xinjiang imported 1,200 tons of eggs from other provinces. In the business transactions of eggs, Xinjiang lost 0.67 yuan for each jin of eggs. However, the province would rather lose money than financially support local masses to raise chickens to solve the problem of supplying eggs locally. It would rather ask woolen mills in cities to send lorries to pastures which are several hundred kilometers away to take wool back than install those simple technological facilities in the pastures for washing wool. The present method of taking wool from pastures and sending it back to the cities is causing enormous waste, because after washing, only half of the crude wool is left. Apart from that, gasoline is wasted and the cities are polluted. This professor added: It is difficult to solve this problem. However, the difficulties are not insurmountable. The key lies in having a great number of cadres who are devoted to their work and are determined to carry out reform. They should be bold in creating a new situation and use their brains to think and propose measures and the ways to implement them.

Developing science and technology is the fundamental way for enhancing economic results in agriculture. Therefore, agrotechnical workers should realize that they are shouldering important tasks. Gu Huangzhang, a lecturer of Nanjing Agricultural Institute, said: Any strategic decisions guiding agricultural production should be based on the sciences. It is the responsibility and duty of agrotechnical workers to promote this practice. We once argued over where we should mainly spread chemical fertilizers--Suxhou or Xuzhou? After making an indepth investigation and scientific analysis, we discovered that due to the previous excessive application of chemical fertilizer in the Suzhou area and the excessive spread of nitrogenous fertilizer by about 30 percent, soil properties of the area were undermined. Compared with 1976, the application of chemical fertilizer per mu of farmland increased by 170 percent in 1981, but per mu yield of farmland dropped by 276 jin. In the meantime, after analyzing the relations between chemical fertilizer application quantity, per mu yield and output value, we discovered that the average application quantity of chemical fertilizer to per mu of farmland by the Zuzhou area is the most appropriate. Therefore, we concluded that while increasing the application of organic fertilizer in the area, we may scores [as printed] of jin of additional chemical fertilizer to each mu of farmland to achieve the best economic results. The Jiangsu Provincial Scientific Commission distributed relevant materials on enhancing economic results of chemical fertilizer to various counties and communes so that the broad masses of peasants could know how to derive more benefits with less money.

Associate Professor Wei Shuangfeng of the South China Agricultural Institute, who did his utmost to overcome obstructions as early as at the end of the 1950's to persist in studying economic results in agriculture, said: Good management methods can bring about economic results only when they are directly mastered by practitioners. Therefore, it is the responsibility of scientific workers in the field of agroeconomics to rapidly spread scientific knowledge to the vast rural areas. We should set up our simple and convenient agroeconomic index system which is in accord with our national conditions and can be mastered by rural cadres who have attained a secondary educational level. In recent years, he has given lectures on scientific knowledge for enhancing economic results in agriculture for cadres of the province, prefectures, counties and communes and has achieved marked results in effectively guiding some localities to carry out rotation between dryland and paddy rice and reform low-yield land.

CSO: 4007/67

RURAL ENVIRONMENTAL PROTECTION WORK PROGRESSES

OW140730 Beijing XINHUA in English 0705 GMT 14 Nov 82

[Text] Beijing, 14 Nov (XINHUA)--China has set up rural environmental protection and monitoring stations in 14 provinces and municipalities, according to the Ministry of Agriculture, Animal Husbandry and Fishery.

The Rural Environmental Protection Agency of the Ministry recently called a meeting in Harbin to discuss work on rural environmental protection and monitoring. Directors of the 14 stations and officials in charge of the work attended this meeting.

In recent years, the stations have provided a large quantity of scientific data to help the government to formulate laws on protection of farmland, forestry, water resources and grassland.

Under the auspices of the Ministry, the gathering was told the stations and the Rural Environmental Protection Agency have conducted considerable scientific research and experimentation, upon which they have based new standards for safe use of pesticides, air quality, potable water and irrigation water.

In the wake of increased industrial development, pollution loomed large in some areas, especially the areas near centers of the chemical, metallurgical and paper-making industries. For example, the officials learned, the incidence of diseases for both human beings and animals near the Baotou Steel Plant in Inner Mongolia has risen as a direct result of air pollution.

To deal with this problem, China began to set up Rural Environmental Protection and Monitoring Stations in 1979.

After just a few years' effort, the monitoring stations in Heilongjiang, Shandong and Zhejiang Provinces surveyed pollution by industrial pollutants and pesticides. They reported the results of survey to local governments and higher authorities, promoting the adoption of measures dealing with pollution.

The agency said the monitoring stations have also studied background values of rural environment for better monitoring and appraisal of rural areas.

Associated background values include various data about the soils, water, crops and other materials that are free from pollution. With the data, they can appraise the environment and pollution with uniform standards.

The agency, which is under the Ministry of Agriculture, Animal Husbandry and Fishery plans to set up monitoring stations in all of China's provinces, autonomous regions and municipalities in coming years. Based on this work, the agency expects to establishing monitoring centers and finally build up a national network with advanced equipment and more scientists.

In recent years, China has instituted various laws to protect the environment, natural resources and maintain the balance of nature.

CSO: 4020/31

REPORT ON NEW FOOD HYGIENE LAW

Decree Issued

OW201008 Beijing XINHUA Domestic Service in Chinese 0159 GMT 20 Nov 82

[Text] Beijing, 20 Nov (XINHUA)--Decree of Standing Committee of Fifth NPC of the PRC:

No 12

The "PRC Food Hygiene Law (for trial implementation)" has been approved by the 5th NPC Standing Committee of the PRC at its 25th session on 19 November 1982. It is hereby promulgated and will be implemented on a trial basis as of 1 July 1983.

Chairman of the NPC Standing Committee Ye Jianying

19 November 1982.

Law Adopted

OW221200 Beijing XINHUA Domestic Service in Chinese 0709 GMT 20 Nov 82

[Text] Beijing, 20 Nov (XINHUA)--Food Hygiene Law (for trial implementation) of the People's Republic of China

(Adopted by the 25th session of the 5th NPC Standing Committee on 19 November 1982)

Chapter I: General Rules

Article 1

This law is formulated for the purpose of insuring food hygiene, preventing food poisoning and other harmful elements that pose a danger to the human body, safeguarding the people's health and enhancing the fitness people of all nationalities.

Article 2

The state enforces a food hygiene supervision system.

Article 3

Everyone engaging in food production and food business operations within the People's Republic of China should observe this law. Everyone has the right to expose and file charges against a violation of this law.

This law applies to all food items, food additives, food containers and packing materials, food utensils and equipment; it also applies in food production and operations sites and facilities and related environments.

Chapter II: Food Hygiene

Article 4

Foods should be free of poison, harmless, meet expected nutrition requirements and appeal to sight, smell and taste.

Article 5

Staple and supplementary foods exclusively for infants and young children must meet the nutrition and hygiene standards set by the public health administrative departments of the State Council.

Article 6

The following hygiene requirements must be met during the process of food production and operations:

1) Maintain a neat and clean interior and exterior environment; take measures to eliminate flies, mosquitoes, cockroaches and other harmful insects and their breeding grounds; maintain a required distance from any poisonous or harmful sites.

2) A food production or operations enterprise should be equipped with workshops and storerooms for treating, processing, packing and storing raw foods materials that are compatible with the varieties and quantities of the foods produced.

3) There must be necessary facilities for disinfection, clothes changing, washing, natural light, lighting, ventilation, preservation, prevention against dust, flies and rats, water purifying, sewage disposal, and storing garbage and other discarded stuff.

4) Equipment layout and the technological process should be designed to prevent raw and prepared goods and raw materials and finished products from polluting each other. Foods must be kept from coming into contact with poisons or unclear articles.

5) Dining utensils, drinking utensils and containers of foods for direct contact with the mouth must be washed clean and disinfected before use. Cooking and other utensils must be washed and kept clean after use.

6) Packing containers, tools, equipment and conditions for transport, loading and unloading of foods must meet hygiene requirements to prevent pollution of foods.

7) Foods for directoral consumption should be packed either in individual wrappings or with materials that are clean and free of poison.

8) Food production and operations personnel should always maintain personal sanitation. They must wash their hands and wear clean work clothing when doing food production and sales. When selling foods for direct consumption, they must use appropriate tools.

9) Water must meet the respective hygiene standards set by the state for drinking water in urban and rural areas.

Hygiene requirements for food peddlers and businessmen in urban and rural fairs to meet in the process of food production and operations shall be formulated separately by the Standing Committee of the respective provincial, autonomous regional and municipal people's congresses by using this law as a reference.

Article 7

Production and sale of the following foods are prohibited:

1) Food that has become stale, rancid, mildewy, insect-infested or contaminated, has mixed with foreign matter or shows unusual signs of possible harm to human health.

2) Containing poisonous and harmful matters or having been polluted by poisonous and harmful matters which may harm the human body.

3) Containing parasites and micro-organisms that may cause diseases or containing micro-organic toxins to an extent exceeding the limit permitted by the state.

4) Meat and meat products that have not been inspected by a veterinarian for food hygiene or fail to pass the inspection.

5) Poultry, domestic and wild animals and aquatic animals that have died of illness, poison or unknown cause and the products of these poultry and animals.

6) Food contaminated by unclean or seriously damaged containers and packing or by unclean means of transportation.

7) Food that has been mixed with artificial ingredients, impurities or fake food that affects nutrition and hygiene.

8) Food that has been processed from nonfood raw materials.

9) Food for which the date for safe consumption has expired.

10) Food that has been banned for sale by special regulations laid down by health administration departments under the State Council or by the people's governments of various provinces, autonomous regions and municipalities directly under the administration of the central government in order to meet the specific needs for disease prevention.

11) Food that contains additives or insecticide (residual) disapproved by the health administration departments under the State Council.

12) Other food that fails to meet standards or to comply with regulations for food hygiene.

Article 8

Medicine must not be added to food except for traditional food that is considered both food and medicine or in cases where such medicine is added as a condiment or food enricher.

Chapter III: Hygiene Concerning Food Additives

Article 9

Food additives must meet quality standards. They must be manufactured by factories designated by the departments in charge of chemical engineering, light industry, petroleum, forestry, aquatic production and medicine under the State Council and various provinces, autonomous regions and municipalities directly under the central government.

Article 10

It is necessary to produce, market and use food additives according to the standards for hygiene control in the use of food additives. Products that fail to meet the standards and have been produced by factories other than those designated must not be used or sold.

Chapter IV: Hygiene Concerning Food Containers, Packing Materials, and Tools and Equipment for Food Production

Article 11

Food containers, packing materials and tools and equipment for food production must meet hygiene standards and conform with regulations on sanitation control.

Article 12

In the manufacture of food containers, packing materials and tools and equipment for food production, it is essential to use raw materials that meet hygiene requirements. Products must be made so that they can be easily washed, cleaned and disinfected.

Article 13

The production of paper, plastic and rubber products and paint in direct contact with food must be organized by the department specializing in the manufacture of these products.

Chapter V: Establishment of Standards for Food Hygiene and Introduction of Measures for Hygiene Control

Article 14

The national standards with regard to hygiene for food, food additives, food containers, packing materials, and tools and equipment for food production as well as detergents used in purifying food and cleaning tools and equipment for food production and the maximum allowance for contaminants and radioactive materials in food and the measures for hygiene control and the regulations for conducting inspection must be formulated or approved and promulgated by the public health administration department under the State Council.

Article 15

The people's governments in various provinces, autonomous regions and municipalities directly under the central government may set their own local hygiene standards for foodstuffs for which the state has not set any standard. However, they must report their action to the public health administration department of the State Council for the record. With the concurrence of the public health administration department at the same level, the department in charge of food production and management or the enterprise in charge of food production and management may list its food hygiene figures when it outlines product quality standards.

Article 16

Figures of hygienic significance in the national standards for production quality for food additives must be examined and approved by the health administration departments under the State Council.

The appraisal and conclusion on any safety factor of insecticide, chemical fertilizer and other chemicals for farm use must be examined and approved by the health administration departments under the State Council.

Regulations for checking slaughtered poultry and animals for hygiene by veterinarians should be formulated by the related department of the State Council jointly with the health administration departments.

Article 17

Various hygiene standards, measures for sanitation control and measures and procedures for sanitation inspection should be promptly revised according to actual needs or examined and approved by the department that formulated or promulgated these standards, measures and procedures.

Chapter VI: Food Hygiene Management

The department in charge of the enterprise for food production and management is responsible for doing food hygiene work within its own department and checking how this food hygiene law is being enforced.

Article 19

The department in charge of the enterprise for food production and management and the enterprise for food production and management must set up organs for improving food sanitation control and inspection in one's own department or unit or assign full or part-time personnel to take care of food sanitation.

Article 20

Organs for food sanitation control and inspection or personnel in charge of food sanitation control have the following duties:

1. Implement the food hygiene laws and regulations as well as the rules and regulations in this regard; and organize the training of personnel for food production and management.

2. Carry out sanitation control, inspection or checkups on food processing and food production and management.

3. Supervise work for food hygiene, criticize and impede actions that have violated the food hygiene laws and regulations, report the situation to the unit at the higher level and to the supervisory organ for food hygiene and propose measures on how to these actions. [as printed]

Article 21

In building new enterprises for food production and management and expanding and remodeling such enterprises, it is necessary to select sites and come up with designs that conform to hygiene requirements. The work of examining and approving these designs and of checking and accepting a completed project must be accomplished by a food hygiene supervisory organ.

Article 22

Before an enterprise for food production and management engages in full-scale production of new varieties of food and food additives by means of new resources, it is necessary to show data needed for the hygienic and nutrition appraisal of these new products. Before an enterprise for food production and management engages in full-scale production of new food containers, packing materials and tools and equipment for food production by utilizing new, raw and other materials, it is necessary to show data needed for the hygienic appraisal of these products. Prior to the full-scale production of the aforementioned new products, it is essential to provide samples for examination and approval according to the proper procedure to make sure that the new products meet the specified food hygiene standards.

Article 23

Food in fixed packages and food additives must be accompanied with a booklet of directions on the product or stamped with a trademark. The name of the product, place of origin, name of factory, date of production, lot number (or code number), specifications, prescription or the main components, date of expiration for safe consumption and methods for eating the food and using the food additives must be clearly marked on various different products according to the regulation. No exaggeration or false advertisement may be used in the booklets or on the trademarks attached to the food or food additives.

Article 24

In the process of food procurement, those who are engaged in food production and management must demand that a certificate of quality or a laboratory test report be produced according to the related state regulation. The scope and type of food that calls for the certificate of quality is determined by the health administration departments in various provinces, autonomous regions and municipalities directly under the central government.

Article 25

Personnel in food production and management must undergo physical checks every year. Those who seek jobs in this field or have been temporarily transferred to work in the field must undergo physical checks and obtain a certificate of good health before they can start work.

Those suffering from dysentery, typhoid, infectious diseases in the digestive system such as viral hepatitis (including disease carriers), active tuberculosis, suppurating or bleeding skin diseases and other diseases that violate food hygiene are not allowed to participate in work where they would have contact food for direct consumption.

Article 26

Enterprises engaged in food production and management and food merchants and vendors must obtain a sanitation permit before they submit applications for registration with the industrial and commercial administrative department or change their registration.

The measures governing the issuance of sanitation permits should be worked out by the health administration departments of various provinces, autonomous regions and municipalities directly under the central government.

Article 27

The industrial and commercial administrative department is held responsible for controlling food hygiene in rural and urban trade fairs and for checking food in general for sanitation. The food hygiene supervisory organ is held responsible for supervising the work of food hygiene and food inspection. The department of agriculture, animal husbandry and fishery is held responsible for checking animals and poultry for hygiene by veterinarians.

Article 28

Imported food, food additives, food containers, packing materials and tools and equipment for food production must conform to the state hygiene standards and measures for sanitation control. The aforementioned imported products must be watched and inspected by the food hygiene supervisory and inspection organ at the border. In requesting inspection, the unit that imports the products should provide data from the export nation (region) and its test reports on the insecticide, additives and fumigants used.

The customs office will release goods on the basis of the certificate issued by the food hygiene supervisory and inspection organ at the border.

Article 29

Food for export shall be subject to hygienic supervision and inspection by state export inspection departments.

Clearance shall be given by customs officers to food for export on the basis of inspection certificates issued by the state export inspection departments.

Chapter VII: Supervision Over Food Hygiene

Article 30

Public health administration departments at all levels shall lead the work of supervision over food hygiene.

Article 31

Sanitation and antiepidemic stations or food hygiene supervision and inspection institutes at or above the county level under public health administration departments are organizations responsible for supervision over food hygiene that comes within their jurisdiction.

Railroad, communications, factory (farm) and mine sanitation and antiepidemic stations shall perform the function of a food hygiene supervision organization within the scope of their jurisdiction and accept work guidance from local food hygiene supervision organizations.

Article 32

Food hygiene supervision organizations shall have food hygiene supervisors who shall be qualified professional personnel with certificates issued by people's governments at the corresponding levels.

Supervisiors of railroad, communications, factory (farm) and mine food hygiene shall be issued certificates by responsible institutions at a higher level.

Article 33

The responsibilities of a food hygiene supervision organization are:

1. To monitor and inspect food hygiene and give technical guidance;

2. To help train personnel engaged in food production and marketing and supervise their physical examination;

3. To disseminate knowledge of food hygiene and nutrition, evaluate food hygiene and make public the conditions in food hygiene;

4. To hygienically examine the sites and designs for the building, extension or rebuilding of enterprises engaged in food production and marketing and take part in checking and approving such projects;

5. To investigate cases of food poisoning and contamination and take control measures;

6. To conduct on-the-spot inspections, give itinerant supervision and in a timely manner handle the problems discovered;

7. To investigate acts in violation of this law and take disciplinary sanctions against those responsible in accordance with the law; and

8. To be responsible for handling other matters related to supervision over food hygiene.

Article 34

Food hygiene supervisors shall carry out the tasks assigned them by food hygiene supervision organizations.

While carrying out their tasks, food hygiene supervisors may acquaint themselves with the situation of those engaged in food production and marketing, ask for necessary information, enter places of food production to conduct inspection and obtain free food samples in accordance with the regulations. Those engaged in food production may not refuse to let them do so or hide facts from them.

Food hygiene supervisors have the obligation to keep secret the technical information provided by those engaged in food production and marketing.

Article 35

In addition to food hygiene supervision organizations, public health administration departments under the State Council or the authorities of provinces, autonomous regions or municipalities directly under the central government may, as needed, designate qualified units as food hygiene inspection units which shall conduct food hygiene inspections and issue inspection reports.

Article 36

In addition to taking emergency treatment measures, units where cases of food poisoning take place and units that treat patients suffering from food poisoning shall report such cases to local food hygiene supervision organizations in a timely manner and in accordance with the relevant state regulations.

Chapter VIII: Legal Responsibility

Article 37

Food hygiene supervision organizations may take the following disciplinary sanctions against relatively serious violators of this law:

1. Give the violators a warning and require them to make improvements within a stated time;

2. Order them to recall those products sold that are not permitted to be produced or marketed;

3. Confiscate or destroy foodstuffs or food additives that are prohibited from being produced or marketed;

4. Impose a fine of not less than 20 yuan up to not more than 30,000 yuan;

5. Order violators to suspend their operation in order to make improvements, and

6. Revoke their hygiene licenses.

Revoking a hygiene license or imposing a fine of more than 5,000 yuan must be approved by a people's government at or above the county level.

Various disciplinary sanctions may be applied separately or simultaneously.

Food hygiene supervision organizations shall supervise the handling of confiscated articles.

Article 38

In case the party concerned refuses to accept a disciplinary sanction imposed by a food hygiene supervision organization, it may bring a suit against the organization at a people's court within 15 days after receiving notice of the sanction. But the party concerned must promptly carry out the decision on food control. If the party concerned fails to carry out the decision on a fine and fails to bring a suit before the time limit, the food hygiene supervision organization shall ask the people's court to enforce the decision in accordance with the PRC law of civil procedure (for trial implementation).

Article 39

Those who violate this law and cause food poisoning accidents or other food-related diseases shall be responsible for compensation for the losses. Victims have the right to demand compensation for their losses.

Compensation for losses includes medical expenses, wages for lost working time, living allowances, funeral expenses and expenses to compensate bereaved families.

Article 40

Requests for compensation for losses shall be handled by public health administration departments at or above county level. In case the party concerned refuses to accept a decision by public health administration department, it may bring a suit at a people's court. The victim, or his or her agent, may also directly sue the party concerned at a people's court.

A request for damages should be filed within a year beginning from the day the victim or his or her agent becomes or should become, aware of the losses the victim suffers. A request of this type, filed after the time limit, shall not be accepted.

Article 41

Those who violate this law and are directly responsible for serious food poisoning accidents or other serious food-related diseases resulting in deaths or people's loss of their ability to work as a result of physical deformity, shall be investigated for their criminal liability in accordance with their different circumstances and Article 114, 164 or 187 of the PRC Criminal Law. Those whose cases are minor may be exempted from criminal sanctions in accordance with the PRC Criminal Law, and disciplinary sanctions shall be taken against them by responsible institutions at the latter's discretion.

Chapter IX: Supplementary Articles

Article 42

The public health administration department under the State Council shall draw up detailed implementation rules and regulations in accordance with this law and put them into practice after reporting them to the State Council for approval.

Article 43

Terms used in this law are defined as follows:

Food: referring to various finished products and raw materials for human consumption, as well as articles which are traditionally both food and medicine, but exclusive of articles for medical purposes only.

Food additives: referring to chemosynthetic or natural materials added to food to improve its quality, color, smell and taste or for preservative and processing purposes.

Food enrichers: referring to food additives, natural nutrients or synthetics similar to natural nutrients, added to food to enrich it.

Food containers and packing materials: referring to articles made of paper, bamboo, metal, enamel, ceramic, plastic, rubber, natural fiber, chemical fiber or glass and used to pack or hold food, as well as coating which comes in contact with food.

Food utensils and equipment: referring to machines, pipes, conveyer belts, containers, utensils and tableware which come in contact with food in the process of its production and marketing.

Food production and marketing: referring to such activities as the production (exclusive of planting and breeding), gathering, procurement, processing, store, transport, display, supply and marketing of all foodstuffs.

Those engaged in food production and marketing: referring to all units and individuals engaged in food production and marketing, including mess halls for workers and staff members and food retailers.

Article 44

Regulations for the management of food exports shall be separately formulated by the state imports and exports inspection departments, in coordination with the public health administration department under the State Council, and with the departments concerned in charge of production.

Article 45

This law shall be put into trial implementation, beginning 1 July 1983.

The day this law is put into trial implementation, the "PRC regulations governing food hygiene" shall be annulled. Where laws and regulations on food hygiene promulgated in the past contradict this law, this law shall be taken as the standard.

CSO: 4007/67

'BEIJING REVIEW' EXAMINES SMALL RURAL INDUSTRIES

HK100531 Beijing BEIJING REVIEW in English No 48, 29 Nov 82 pp 3, 4

[From the "Noted From the Editors" Column by Economic Editor Jin Qi: "Small Rural Industries"]

[Text] Are China's small rural industries of any real economic significance? As these industries are generally characterized by a high rate of raw material and energy consumption and low efficiency, what are their future prospects?

This is a logical question from the perspective of a developed nation. But one needs only look at the realities of the presentday Chinese countryside to appreciate the importance of its small industries.

These industries evolved from traditional handicrafts and small workshops and developed fairly rapidly after the establishment of the rural people's communes in 1958. By the end of 1981, about 725,000 commune- and brigade-run industrial enterprises had been set up, embracing various trades and employing 19.8 million workers. Their annual output value totalled 56,200 million yuan, which was one-third of the combined output value of the three-level rural organizations—the commune, the production brigade and the production team.

Small rural industries have had their ups and downs in the last two decades or so, and opinions on them ranged from praise to censure. The late Chairman Mao Zedong described these commune- and brigade-run enterprises as the "hope for a bright future." But in the "great leap forward" of 1958, they became a symbol of a "premature rush to communism" because they were mostly developed by requisitioning the collective property of the peasants without paying any remuneration whatsoever, and during the "cultural revolution" of 1966-76, many of them came under fire as "capitalist undertakings" simply because they were more profitable than grain production. In spite of all this, small rural industries continued to develop and demonstrated their immense vitality. Since China began to right the wrongs in all fields of endeavour in 1978, the total output value of these small industries has increased at a progressive annual rate of 10 percent.

Economically, there are several reasons for this rapid development. First the surplus labour force in the rural areas is expanding and must be employed; secondly, there is an urgent need to tap the abundant mineral and other natural resources, many of which are at present beyond the capacity of big industries in the cities; thirdly, the purchasing power of the vast rural market is increasing; and finally, the rural processing industry, with higher profitability than farm production, can help raise the needed funds for water conservancy projects and farmland capital construction. All these have enabled indigenous small industries to strike root in the rural areas.

They also have become indispensable supplements and auxiliary producers to the big urban industries. In 1981, for instance, some small rural industrial products made up a substantial proportion of the total national output. They produced 19 percent of the nation's coal; 80 percent of its building materials (bricks, tiles, stone, lime, etc.); and 34 percent of its gold. Rural industries also contributed 40 percent of the garment industry's output, and produced a full 70 percent of medium-sized and small farm implements and handicraft articles (basket weaving, embroidery, etc.).

Small industries have helped increase the peasants' standard of living. The output value and fixed assets of commune- and brigade-run industrial and other enterprises each make up over one-third of the total of the three levels of the people's communes. They have, indeed, become a mainstay of the rural collective economy. In 1981, they earned 67,000 million yuan, of which 15,000 million yuan were directly distributed to commune members. This sum was approximately 17 percent of all collectively distributed funds. The rest was set aside as accumulation funds or for the development of collective welfare. These industries are also a chief source of construction funds for the rural areas and towns.

Although they compare unfavourably with big urban industries in technology, management and efficiency, they are nevertheless a cut above farm production which for the most part still depends heavily on manual labour. In 1981, the average per-worker labour productivity of commune- and brigade-run industries was 2,923 yuan, approximately one-fourth of state-run industries but more than five times that of agriculture.

To date, 80 percent of the rural industries are not included in the state plan. They market their own products, bear sole responsibility for their own gains and losses, and are regulated by the market. This has given them much leeway in production and management, but simultaneously resulted in a certain degree of economic disarray such as competition with big industries for raw materials and overlapping construction of factories. It is therefore necessary to strengthen planning, improve their management and gradually raise their technical capabilities. These tasks have been an important aspect of making readjustment in the rural economy in the last few years. Compared with 1980, the number of commune- and brigade-run enterprises dropped by 4.3 percent nationally in 1981, but their total income rose by 11 percent. This indicates that the small rural industries have made remarkable progress in improving their economic results.

Through continuous readjustment and improvement, the rural industries will solve their problems and develop steadily.

CSO: 4020/31

'RENMIN RIBAO' ON DEVELOPING ANIMAL HUSBANDRY

HK240835 Beijing RENMIN RIBAO in Chinese 20 Nov 82 p 3

[Commentator's article: "Strive To Improve the Economic Results in Animal Husbandry--Second Comment on Raising the Development of Animal Husbandry to a Higher Position"]

[Text] The RENMIN RIBAO editorial "Raising the Development of Animal Husbandry to a Higher Position" of 4 October pointed out that animal husbandry is at present a weak link in our national economy and there is an urgent need to raise it to a higher position. We must use the same energy as in grasping grain to bring about a great development in animal husbandry.

Where do we begin with developing animal husbandry? Conditions in many localities mean that we should give priority to raising economic benefits and improving the marketability of commodities. Our animal husbandry has developed considerably since liberation and there is a notable increase in the quantity of livestock (amount on hand at the end of the year). In 1980, the quantity of all kinds of livestock in the country had reached more than 580 million heads which represented an increase of 2.67 times over that of 1949. The major problems in animal husbandry at present are poor economic benefits and low marketability of commodities which still lag far behind advanced world levels. According to 1981 statistics, the turn-over rate of pigs from the pen in our country is 63 percent, whereas the advanced world level is from 100 to 200 percent. The turn-over rate of sheep from the pen in our country is about 20 percent, whereas the world level in general is from 50 to 60 percent. In other fields, such as the average livestock meat output and the livestock products output for every 100 mu of grassland, there is still quite a bit of disparity compared with the advanced world level. China leads the world in livestock quantity, but has only one-tenth the grassland area. Moreover, such livestock products as meat, milk and wool are much less than in some countries. This shows that there is still a great latent capacity.

There are many reasons for the low economic benefit of animal husbandry production in our country. An important reason is that for a considerable period in the past, we have onesidedly placed the emphasis on livestock numbers in our guiding ideology and neglected economic benefit. We have not focused attention in raising the turn-over rate from the pen and improving the quantity and quality of end products. Especially in those years of "learning from Dazhai," the quantity of livestock available on hand at the end of the year was the only criterion used for assessing "animal husbandry in Dazhai County," and this was extremely harmful. Many pastoral areas onesidedly concentrated on livestock numbers without paying attention to improving management and administration and raising the scientific level of livestock breeding. The turn-over period of livestock was long and large quantities of livestock were for a long time set in the cycle of "fat in autumn, lean in winter and dead in spring." A great deal of fodder and forage grass was used up without recompense, or, without being turned into such products as meat, milk and wool, not understanding commodity production and not paying attention to improving the marketability of commodities has taught us an important lesson in the directing of animal husbandry work.

The development of our animal husbandry is very unbalanced. The grassland of some of the pastoral areas has still not been fully used and the vast agricultural areas have great potential for developing animal husbandry. For example, such places as northeast China, Sichuan, Yunnan, Guizhou, Henan and Hebei have excellent prospects for developing cattle raising and they must advocate raising more cattle and breeding dairy cows. The grassland of some of the pastoral areas is already overgrazed and must be properly controlled. However, all areas should regard raising economic benefits as their common goal. If we only seek quantitative increase and the marketability of commodities remains very low, it would only mean that the increase is wasted. Without breaking away from the condition of low economic benefit, the pastoral areas cannot become prosperous and the state will also not receive any benefit.

In recent years, such pastoral areas as Fuyun County in the Altay Prefecture of Xinjiang and the Xianghuang Banner of the Nei Monggol Autonomous Region, have already achieved gratifying results by summing up past experiences and lessons and reforming the backward modes of management and production. The Haibei Zang Nationality Autonomous Prefecture, reported in our newspaper today, is an example in this respect. In the past, this prefecture used to regard the amount of livestock available on hand at the end of the year as a major mark for judging production achievements. Some of the livestock were not taken out from the pen and some very old sheep were still kept and not slaughtered. Consequently, the income of the pastoral workers was reduced, the grassland was overgrazed and many livestock lost their foals or died. According to statistics, in the 3 years before 1978, losses due to the loss of foals and death amounted to more than 3 million yuan a year and the pastoral people lost an average of nearly 100 yuan per person. This prefecture is now leading the whole province in the turn-over rate as well as the marketability of commodities, and the pastoral workers' income has greatly increased. This incident has effectively proved that if we shift the focus of work to raising economic benefit, we will grasp the principal contradiction at present of unearthing the internal potential of animal husbandry and further developing livestock breeding. If all pastoral areas can further raise the turn-over rate and the marketability of commodities as in the manner of Qinghai's Haibei Prefecture, they will be able to create considerable wealth.

The marketability of commodities is a composite reflection of numerous production problems. The conscientious study of the problems of raising economic benefit and marketability of commodities can expose many contradictions, promote the solving of these contradictions and push forward the all-round development of production. Raising the economic benefit of animal husbandry is closely related to many fields, of which, the most important are setting up a production responsibility system and eliminating the phenomenon of "eating from the same big pot." Such things as practicing scientific livestock raising, improving breeds and protecting and building grasslands are basic measures for raising economic benefit. After shifting the guiding ideological emphasis to grasping economic benefit, Haibei Prefecture has more enthusiastically, actively and conscientiously grasped this work and adopted effective measures which have caused a profound change to quickly take place in the features of production.

The 12th Party Congress has put forward the grand goal of building up the economy of our country by the end of this century and also pointed out in particular that the development of the economy must be carried out "under the premise of constantly raising economic benefit." The potential of livestock breeding is very great in agriculture, forestry, animal husbandry and fisheries. As long as we conscientiously grasp economic benefit properly, it is entirely possible to achieve a big increase in the output of such livestock products as meat, milk, leather and wool within several years.

CSO: 4007/67

DEVELOPING ANIMAL HUSBANDRY REVIEWED

HK060901 Beijing RENMIN RIBAO in Chinese 2 Dec 82 p 4

[Commentator's article: "City Suburbs Must Energetically Develop Animal Husbandry--Third Comment on Raising the Development of Animal Husbandry to a Still Higher Position"]

[Text] After the energetic development of animal husbandry in the suburbs of Harbin, the supply of milk and eggs has been greatly improved and the income of the peasants has also increased. This example has universal significance to many big and medium cities.

There are 80 large and medium sized cities in China that have a population of over 300,000 each and there is a total of 160 million people living in cities and towns. Recently, the material lives of these city civilians have improved markedly and along with the development of tourism and recuperation, the population of cities are gradually increasing. Therefore, to meet the above situation, the need for meat, eggs and milk is also increasing. In some cities, there has been rather a shortage of meat, eggs and milk. How can we resolve this contradiction? It is not a good method to fully rely on allotments from other places. At present, a large amount of these nonstaple foodstuffs of some cities are allocated from other provinces and places. The cost of these foodstuffs are high and the wastage great, thus seriously aggravating the state subsidy and the consumers' burden. Nonstaple foodstuffs, such as eggs and milk should be kept fresh. After a long distance of transportation, these foodstuffs may go bad and cause a loss. For instance, the damage and mould of fresh eggs allocated and transported from Hunan, Hebei, Henan and other places to Beijing and Tianjin Municipalities may reach 20-30 percent or more. Furthermore, the standard of living of the people of towns and villages allocating these foodstuffs has recently improved and their need of these nonstaple foodstuffs is also great. Large cities cannot rely on them for their nonstaple foodstuffs for a long period of time.

The experiences of Harbin and other municipalities teach us that fundamental way of resolving this contradiction is to energetically develop husbandry in city suburbs and countryside and raise the degree of self-sufficiency in domestic animals and poultry products. There are many favorable conditions for city suburbs to develop animal husbandry. In the suburbs of the 80 large and medium sized cities, there are 130 million mu of cultivated land. Most of this land is in a good condition and there are high yield fields which can offer abundant forage. In addition, there is a large amount of straw and dregs of rice cakes that can be used to feed domestic animals and poultry. In the suburbs of a number of cities, there is a certain amount of mountainous, hilly areas and grasslands or water surfaces, which is rich and abundant in herbage and which provides a favorable condition for producing protein and aquatic fodder. In the industrial and commercial enterprises of the cities, there are large quantities of leftover bits and pieces such as distillers' grains, bagasse, grits of flour and soybean residue that can be used as fodder. Moreover, in most of the cities, there are state or collective run stock and poultry breeding farms, livestock farms and feed processing plants that have strong forces in livestock scientific researches. The vast number of suburban peasants also have initiative and experience in raising livestock in family units. Provided we make full use of these favorable conditions, it will not be difficult to develop animal husbandry in city suburbs.

Some comrades say that the area of the suburbs is limited compared with a large city, so it is useless to attempt to develop animal husbandry in city suburbs and this cannot solve the needs of the city. On the short supply of eggs, milk and other products, they looked more at objective difficulties, but never thought of a way to exert their superiority and try to overcome the difficulties. It was precisely because of the influence of these ideas that some cities failed to step up the self-sufficient production of milk, eggs and meat, thus resulting in the short supply of these foodstuffs that could not be solved for a long time. The population of the urban area of Harbin is 2.09 million. The suburbs of Harbin are equal to only the size of a medium-sized county in Heilongjiang Province. In the past, there were some leaders who thought that "a small suburb cannot solve a big problem." But when they made some practical investigations, they changed their ideas. They discovered that although the suburbs are small, they have great potential in developing animal husbandry. The problem is that in the past, suburban agriculture grasped only monoculture, the peasants raised only pigs, livestock departments grasped only the collective raising and the purchase and marketing of livestock and poultry products were monopolized by the state run commercial departments. All the above are the obstacles to the development of animal husbandry in city suburbs. Aimed at such circumstances, Harbin Municipality conducted readjustment and restructuring and thus a new situation has been created in developing animal husbandry in city suburbs.

Facts have proved that the key to developing animal husbandry in city suburbs is to straighten out the developing orientation of suburban agriculture. The CPC Central Committee has time and again pointed out that suburban agriculture must mainly solve the supply of vegetables, meat, eggs, milk, fruits and other nonstaple foodstuffs to cities. In other words, suburbs must be a base for producing nonstaple foodstuffs for cities. The fundamental reason why animal husbandry cannot be promoted in the suburbs of some cities at present is that they have not truly solved the principle problem. The initiative of a substantial number of our cadres in running animal husbandry is always not as high as their initiative in planting. In the suburbs of some cities, those commune owned industries eager to gain large profits usually placed the production of milk, meat, eggs, vegetables and other nonstaple foodstuffs in a secondary position. This incorrect practice must be changed. How to make the suburban agriculture serve the life of the people in cities much better and properly solve the living problems of more than a hundred million city civilians is a major event that has great political significance. Leading cadres in charge of urban work must attach full importance to the development of animal husbandry in city suburbs. If this work is grasped well, it is not only of advantage to cities but it also benefits the suburban peasants and increases their income so that they can become rich more speedily.

While developing animal husbandry in city suburbs, it is imperative to apply the policy of arousing the initiative of all aspects including the state, collective and individuals. In some cities, the state monopolizes the production and operation of livestock and poultry. As when it is necessary for expanding production, the state has to invest money, supply large amounts of feed and so on. Money is spent but the economic results are still not high. One of the important reasons why the suburbs of Harbin have developed so fast in animal husbandry is that while energetically supporting the specialized and key families in developing the production of milk and eggs, they have at the same time relied on the stock raising industrial and commercial enterprises which are represented in the main body of the state farm and together with large number of communes, teams and specialized families, they have organized and promoted the production and operation of animal husbandry and poultry products of the whole city. It seems that the way to achieve greater, faster, better and more economical results in developing animal husbandry in city suburbs is to support specialized and key families in raising pigs, cattle, sheep, poultry and so on. By applying this method, the state does not have to spend much money, whereas production can be swiftly developed and the peasants can become rich much faster.

CSO: 4007/67

REPORT ON EFFICIENT USE OF FARM WATER

HK070828 Beijing RENMIN RIBAO in Chinese 4 Dec 82 p 3

[Commentator's article: "Pay Serious Attention To Raising Efficiency in the Use of Water for Farm Purposes"]

[Text] Agriculture consumes most of the water in China. The water used in irrigation only occupies approximately 85 percent of the total quantity of water used in the whole country. It is anticipated that by the end of the century, the water used in agricultural irrigation will increase by 25 percent or more over the present amount. Where is this large amount of water to come from? There are two main ways. One is to develop resources and continue to construct a number of irrigation installations that need little investment and can bring about great economic results; and the other is to be economical by giving full scope to the potential of the existing water supply projects, economically and rationally use water and raise efficiency in the use of water for irrigation. From the situation of Zhanghe reservoir in Hubei Province, there is great potential in economizing on the use of water here, quick results have been achieved like "removing the husk and immediately seeing the rice."

The problem of economic results in water conservancy projects has aroused the attention of various localities in recent years. But there are some localities and units that calculate their agricultural output increase only after the construction of water conservancy works and calculate their income in the building of the project. Those projects that are in the final phase calculate the potential that can be tapped after the project has formed a complete set and place their hopes on adding more investment to raise the economic result and do not put their focus of attention on how to give full play to the management potentiality of the existing projects. As a matter of fact, the economic results of a water conservancy project cannot be judged by the big increase in agricultural production or the income of the project and its future prosperity. What is more important is that we must examine whether the water is properly managed and used. This is the most practical result that can possibly be achieved.

As far as most of the localities throughout the country are concerned, there is a popular problem of low efficiency in the use of water and a great wastage in water resources at present. The practices of using water but not managing it, "everybody sharing food from the same big pot" in the supply of water, all paying the same in water charges and irrational bearing of the charges will encourage wastage in the use of water and make the utilization ratio of water very low from the opening up of limited water resources. This is the reason why the economic results of many of the water conservancy projects have not been brought into full play.

Another reason for the low efficiency in the use of water is that we have not attached importance to the value of water. "Spending money like water" reflects the idea that regards water as a valueless thing. The water we use is gained through labor and investment. It is not merely the natural water that drops from the sky. Water is also a commodity. We must also work accounts in the use of water. Therefore, by reforming the method of "everybody sharing water from the same big bucket" through economic means, working out and perfecting the system of irrigation, rationally fixing water prices, directly connecting water with the economic interests of the people, whoever uses water should be responsible, the more he uses the more he should be charged; then the people who use water will try by every means to raise the efficiency in their use of water. Those who manage water will regard it a sum of wealth, attach importance to the maintenance of projects, pay attention to the dispatch of water supply and ensure the storage of water as much as possible under safe conditions.

At present, one work on the water conservancy fronts that has great significance is that we must use economic means to reform management in the use of water, establish and perfect a variety of responsible systems in water conservancy management according to local conditions, fully arouse the initiative of various respects in the management and proper use of water and promote the scientific use of water. This is also an important step for water conservancy work to create a new situation in the field of agricultural development. We hope that the water conservancy departments at various levels will energetically support this work.

CSO: 4007/67

FRESHWATER FISH OUTPUT REPORTED

HK270136 Beijing CHINA DAILY in English 27 Nov 82 p 3

[Special to CHINA DAILY: "Freshwater Fish Hits 1.5 Million Tons"]

[Text] China's catch of freshwater fish is expected to reach 1.5 million tons this year, 120,000 tons above target, according to the Aquatic Products Bureau of the Ministry of Agriculture, Animal Husbandry and Fisheries.

The State Council has given priority to the raising of freshwater fish and called on fisheries to aim for an annual four to five million tons by 1990.

In 1981, the catch was 1,370,000 tons, an increase of 30 percent over that of 1978. A total of three million hectares of water surface were used to raise fish in 1981, [figure indistinct] percent more than in 1978.

The state has invested 147.62 million yuan in 14 provinces and cities since 1977, setting up fish-raising centres.

These fish-raising centres can produce 45,000 tons of fish a year and have more than 365,333 hectares of water surface.

Some provinces and cities have also set up fish-raising centres of their own. Shandong Province has turned over more than 2,891 hectares to fisheries.

Yunnan Province has decided to invest an annual five million yuan on fisheries starting this year.

This year, 64 percent of 240,000 of Jiangsu Province's production brigades have started raising fish.

The number of families raising fish this year has reached 1,870,000. They are scattered in provinces and cities including Hunan, Hubei, Jiangxi, Guangdong, Jiangsu and Anhui.

CSO: 4007/67

RURAL ENTERPRISES RESPONSIBILITIES NOTED

OW201250 Beijing XINHUA Domestic Service in Chinese 1134 GMT 19 Nov 82

[Excerpts] Beijing, 19 Nov (XINHUA)--XINHUA reporter Shao Yongli reports: The national rural enterprise streamlining work forum ended in Beijing recently. The forum pointed out: "The quadrupling of total agricultural output value calls for rural enterprises to shoulder important responsibility."

Since the 3d Plenary Session of the 11th CPC Central Committee, enterprises run by communes, brigades and production teams in rural areas have been developing rapidly." China now has 1.33 million rural enterprises with 30 million staff members and workers. Last year their total output value reached 73.8 billion yuan. Over the past 3 years, it has increased by an average of 13 percent each year.

The leading comrades of rural enterprises in all provinces, municipalities and autonomous regions who attended the forum analyzed in detail the present situation and the status quo in rural enterprises. They pointed out: An unprecedented new situation has existed in the present rural areas. A new period of great developments is facing the rural economy. They believe that in order to reach the strategic goal proposed by the 12th CPC Congress and quadruple the total agricultural output value, it is necessary to rely on the peasants' enthusiasm and the popularization and dissemination of science and technology so as to raise the per-mu yields on the existing arable land.

All participants at the forum cited numerous facts to illustrate that the annual output value of rural enterprises may increase at a faster speed than that of farming and breeding. The total output value of China's rural enterprises from 1976 to 1981 increased by more than 100 percent.

CSO: 4007/67

NPC DEPUTIES REVIEW THRIVING RURAL ECONOMY

OW070215 Beijing XINHUA Domestic Service in Chinese 1740 GMT 3 Dec 82

[Excerpts] Beijing, 3 Dec (XINHUA)--Citing facts and personal experiences, many deputies attending the Fifth Session of the Fifth NPC have expressed their support for the profound scientific observation made by Premier Zhao Ziyang in his report on the Sixth 5-Year Plan that "the continual and all-round upsurge of agricultural production and prosperity in the rural areas are the important foundations for continuous improvement of the nation's economic and political situation."

Deputy Yu Jingzhong, an agronomist of the cotton seed farm of Siyang County, a county in northern Jiangsu constantly stricken by natural disasters, said: Xuzhou and Huaiyin are two prefectures notorious for their frequent natural onslaughts. But these two areas have displayed new vigor since the 3d Plenary Session of the 11th CPC Central Committee. In the 1950's, these two prefectures produced merely 4.5 billion jin of grain annually. The annual output rose to 8.8 billion in the 1970's. Last year the output soared to 13.3 billion jin. This year, the grain output of Huaiyin Prefecture alone reached 9.4 billion jin.

Deputy Meng Fulin, vice governor of Anhui, said: Although a quarter of Anhui's croplands were seriously waterlogged this year, the grain output still exceeded that of 1981, the previous peak year. In 1981, the province produced 36.3 billion jin of grain, topping that of 1978 by 22.68 percent. The average annual increase in the past several years has been 7.1 percent. The output of economic crops has increased even more rapidly. Compared with 1978, the output of cotton, oil-bearing crops, tobacco, jute and tea in 1981 increased 36, 205, 80, 89 and 24 percent, respectively. The peasants' living standards have substantially improved. In 1981, the per capita income of the province's rural population from collective distribution increased by 87 percent over 1978. Surveys of 10,000 families in 1981 show that the per capita consumption of foodgrain increased 26 percent, and that of meat, fish and eggs increased 28 percent over 1980; and the number of bicycles, sewing machines, radio sets and wristwatches owned by each family increased over 30 percent.

Deputy Li Linzhi, vice chairman of the Standing Committee of the Sichuan Provincial People's Congress, said: Sichuan has been reaping bumper grain harvests every year since 1979. The province's total grain yield in 1982 will reach approximately 74 billion jin, or over 6 percent higher than 1981. The province's agricultural structure has changed and production of commodity crops is developing. Last year the output of marketable agricultural and sideline products topped that of 1978 by 58 percent, and the amount of money earned by the peasants from selling agricultural and sideline products to urban residents was 1.5 times higher than 1978. The peasants' living standards have improved significantly. A survey of 125 production teams in 40 counties of the province shows that last year's per capita income in the rural areas was 221 yuan, which is almost 100 percent higher than the 127 yuan of 1978.

Owing to the adoption of the production responsibility system of fixing production quotas to individual households and improvement of production efficiency, a third of the manpower in the rural areas has become surplus manpower. Owing to higher output and income, the peasants have accumulated some money. Rural savings have now reached nearly 900 million yuan. The surplus manpower and financial resources are favorable factors for future agricultural development. Proper management and utilization of these resources will be highly beneficial in expediting agricultural modernization.

Deputy Zhan-bu-la-zha-bu, deputy chief of Hulun Buir League, said: The production situation on the Hulun Buir grassland has been improving every year, and so have the people's living conditions. This year, although the agricultural areas in the league have been hit by natural disasters, the total grain output has set a new record, and the peasants' per capita income has exceeded 300 yuan, topping that of last year by 60 percent. Despite unusual windstorms and snowstorms in the pastoral areas, the total number of livestock this year is still 18 percent higher than last year, and the livestock death rate has dropped to 8.2 percent from 10.4 percent in 1979. The commodity rate of livestock has doubled. The herdsmen are now happily buying additional Mongolian yurts. Many young people have married. Some families have sent their children to study in universities at their own expense.

CSO: 4007/67

CHANGES IN RURAL AREAS DISCUSSED

HK301446 Beijing JINGJI GUANLI in Chinese No 10, 15 Oct 82 pp 15-18

[Article by Zhang Zhongji [4545 6988 1015]: "Gratifying Changes in China's Countryside Over the Last 3 Years"--passages within slantlines denote boldface as published]

[Text] China has a population of 1 billion people, of which 800 million are in the countryside. In the readjustment of the national economy, what changes has the countryside witnessed? This is a question with which many people are concerned. Since the third plenary session, the localities have implemented the party's various rural policies and brought into play the socialist initiative of hundreds of millions of peasants. A lively and gratifying situation of prosperity in which the people live and work in peace and contentment has emerged in China's countryside. Such a situation manifests itself mainly as follows:

/1. The Production Relations Are Being Readjusted, the Peasants Are Doubling Their Efforts/

The production relations must comply with the development of the productive forces. This is an objective economic law independent of man's will. Since the third plenary session, the localities have restored and developed various forms of the responsibility system in agricultural production. This is, in essence, a major readjustment of rural production relations. It is in compliance with the needs of the masses and conforms to the historical trend. It has not only held firm to the socialist orientation of agriculture, but also adhered to the management methods which are suited to the requirements of the peasants. Therefore, in a short period of 2 to 3 years, the rural areas throughout the country have extensively established various forms of the production responsibility system such as assigning responsibilities at the sectional level, assigning responsibilities to specialized units, assigning responsibilities to each laborer (or each group) and linking remuneration to output, fixing output quotas on a household basis and assigning work to each household. Seventy percent of the production teams have implemented the system of fixing output quotas on a household basis or assigning work to each household. In Anhui, Guizhou, Gansu and Henan provinces, the production teams that have implemented the system of fixing output quotas on a household basis or assigning work to each household account for over 90 percent. Such a production responsibility system has, to varying degrees, broken away from the old formula inherent in the management of labor and overcome the shortcomings of issuing "confused orders" in production and of carrying out egalitarianism in distribution. It has directly linked the quantity and quality of labor of the peasants with their material interests, reflected in a relatively good manner the principle of to each according to one's labor, brought into play the peasants' initiative in production and opened up a broad road for further developing the productive forces. In the rural areas throughout the country, we can see that the peasants are doubling their efforts and are answering the party's call of "getting well-off through productive labor."

/2. Agriculture, Forestry, Animal Husbandry, Sideline Production and Fishery Are Flourishing, and Production Has Developed by a Large Margin/

China has a large population, and the problem of adequate grain production has not been solved. Undoubtedly, it is correct that we must at all times pay close attention to grain production. But in the past, some localities took grain as the key link regardless of soil conditions and without distinguishing whether it is a forest region, a pastorial area or a fish-breeding zone. They reclaimed land for grain production by destroying forests and grasslands and by building up dikes on lakes. Therefore, organisms' habits were out of balance and soil erosion was serious. As a result, not only could grain production not go up, the development of industrial crops and other trades was also restricted, and the state had to import more and more grain, cotton, sugar and oil every year. In the past years, in line with local conditions, the localities have paid attention to readjusting the structure of crop growing, carried out a diversified economy and tapped the potentials of natural resources and of labor power. Agriculture, forestry, animal husbandry, sideline production and fishery are flourishing, and production has developed by a large margin for successive years. From 1979 to 1981, the sown area of cereal crops was reduced by 85 million mu. But due to the raising of unit output, the total output of cereal crops in 1979 was 664 billion jin. The total output in the other 2 years also exceeded the highest level before 1978. Various industrial crops also increased consistently. In 1978, the output of cotton was 59.35 million piculs, an increase of 37 percent over 1978 [as printed]; the output of oil-bearing crops was 204.1 million piculs, an increase of 96 percent; the output of sugar crops was 720.56 million piculs, an increase of 51 percent; the output of tea leaves was 6.85 million piculs, an increase of 28 percent. In the development of crop growing, our diversified economy also developed rapidly. In 1981, the output value of forestry, animal husbandry, sideline production and fishery was approximately 61.7 billion yuan (calculated according to the fixed prices in 1970), an increase of 31.1 percent over 1978. Such a rapid and all-round development of China's rural economy is rare in history.

In the past few years, many localities have freed themselves from the narrow concept of small agriculture. They do not fix their eyes only on cultivated land; they also bring into play the superiority of the localities and make use of local resources. They have opened up the way for developing large agriculture. For instance, over the last 3 years, Jiangxi Province has reclaimed 9.78 million mu of uncultivated hilly land, wasteland and undeveloped water areas, of which 460,000 mu has been used for expanded cultivation of tea trees, mulberry trees and fruit trees, 8,176 million mu is for afforestation, 20,000 mu for herbage growing and 540,000 mu has been used for expanded marine product management. With other measures being adopted, the output value of the diversified economy of Jiangxi Province in 1981 was 4.09 billion yuan.

In the rural areas, there has been a further development in commune and brigade-run enterprises over the last 3 years. In 1981, the total income of China's commune and brigade-run enterprises was 67.04 billion yuan, a 55.4 percent increase over the 43.14 billion yuan of 1978. Building materials such as bricks, tiles, lime, sand and rocks produced by commune and brigade-run enterprises account for approximately 80 percent of the country's total output. Gold, raw coal and crude salt produced by commune and brigade-run enterprises account for 10-30 percent. Most knitted and embroidered handicrafts are produced by commune and brigade-run enterprises and by the peasants. In the 3 years from 1979 to 1981, the net profit of commune and brigade-run enterprises throughout the country was 33.57 billion yuan, of which 12.18 billion yuan was used to support poor production teams, for carrying out farmland capital construction and for the purchase of various kinds of agricultural machinery. In economy and technology, commune and brigade-run enterprises have become an important mainstay in realizing China's agricultural modernization. They are also an important component part of the collective economy which is indispensable in promoting economic prosperity in the countryside and improving the livelihood of the peasants.

/3. The Economic Results of Agriculture Have Remarkably Increased/

In the past 3 years, the implementation of various forms of the responsibility system has not only raised labor productivity in agriculture, but also reduced irrational expenses. Good.economic results have been achieved. In 1981, the total agricultural output value created by each agricultural laborer was 560 yuan on the average (calculated according to the fixed prices in 1970), 12.7 percent higher than that created in 1978; grain output increased from 2,075 jin to 2,118 jin (in 1979, it increased by 2,257 jin), an increase of 2.1 percent; cotton output increased from 14.76 jin to 19.34 jin, an increase of 31 percent; the output of pork, beef and mutton increased from 58.3 jin to 82.2 jin, an increase of 41 percent.

Various expenses in agriculture have dropped. This has changed the situation in which production increased but income remained the same. The proportion of various expenses in the total income of the basic accounting unit of the rural people's communes dropped from 34.9 percent in 1978 to 31.4 percent in 1981; the average net income provided by each 100 yuan rose from 187 yuan to 218 yuan, an increase of 16.6 percent. Particularly in the production teams that exercised the principle of fixing output quotas on a household basis and assigning work to each household, economic results were more marked. According to the investigation made by the Hunan Provincial Statistics Bureau on 34 production teams that exercised the principle of fixing output quotas on a household basis and assigning work to each household, in 1981 the total income of these production teams increased by 5.3 percent over the previous year, various expenses dropped by 19.5 percent, of which production cost dropped by 16 percent, management cost dropped by 39.5 percent and other costs by 58.4 percent.

/4. The Income of the Peasants Has Increased by a Large Margin/

Because production has developed and the state has raised the purchase prices of agricultural and sideline products and reduced or exempted part of rural taxation, the income of the peasants has increased for successive years.

According to the investigation which was made by selecting examples in respect to the income and expenses of the peasant families, the average net income of each person rose from 133.6 yuan in 1978 to 223.4 yuan in 1981, an increase of 67.2 percent. Well-to-do families in the countryside have increased in large numbers, and the number of families living in tight circumstances has fallen sharply. Of the total number of peasant households investigated, the number of peasant households with a per capita income of over 300 yuan rose from 2.4 percent in 1978 to 22.6 percent in 1981, and the number of peasant households with a per capita income of below 100 yuan dropped from 33.3 percent to 4.7 percent. Of the 12 areas and 241 counties in northwest Shandong, northwest Shaanxi, north Shaanxi, east Henan and west Hubei which were originally low-yielding and short of grain, the average income of each person obtained from the basic accounting unit in 49 counties has exceeded the average level of the whole country.

Viewed from the source of income of the peasants, the collective economy is the principal part of the rural economy. How collective production is carried out plays a decisive role in the peasants' income. In 1981, the number of peasant households with a per capita income of over 300 yuan, of which 218.3 yuan was obtained from the collective, was 6 times the number of peasant households with a per capita income of below 100 yuan, of which 36.4 yuan was obtained from the collective. Moreover, family sideline production is an important supplement to the collective economy. Since the implementation of the responsibility system, work efficiency has been remarkably raised, and more and more redundant labor force has been devoted to family handicraft, domestic animal and fowl breeding, hunting and other productive work. The peasants' income from family sideline production has rapidly increased. The per capita income from family sideline production rose from 35.8 yuan in 1978 to 84.5 yuan in 1981, an increase of 140 percent. The proportion of the per capita income in the total net income of the peasants rose from 26.8 percent in 1978 to 37.8 percent in 1981. At present, in the whole country there are already more than 2 million specialized and key households breeding domestic animals and fowls. They can make quick returns and create a high ratio of commodities with small investments and at low cost. They have opened up a new road for the development of the rural economy. Therefore, for the peasants to live in prosperity, it is important to expand the collective economy, to develop family sideline production, to bring into play the initiative of the collective and individuals and to pay attention to giving an impetus to the role of the peasants' technology in production and to the role of their specialized skills so as to develop in the orientation of specialization.

/5. There Has Been Marked Improvement in the Livelihood of the Peasants/

Following the increase of the peasants' income, their livelihood has remarkedly improved. An investigation by selecting similar examples with regard to the income and expenses of the peasant families shows the following:

In respect to eating: In the past, the peasants only thought of having enough to eat, but now they are beginning to pay attention to having nutritious food.

Flour and rice have increased in the food they eat. The increase of expenses on nonstaple food has been faster than the overall increase of the consumption of staple food, oil, meat, eggs and fowls. The average quantity of grain consumed by each person increased from 496 jin in 1978 to 512 jin in 1981. Of the above average quantity, the flour and rice consumed increased from 245 jin to 345 jin; the pork, beef, mutton and fowls consumed increased from 12.01 jin to 18.82 jin; and the oil consumed increased from 3.94 jin to 6.25 jin. Now the situation in which peasant families "did not have meat to entertain their guests nor oil to cook their dishes" is not often seen.

In respect to clothing: In the past, the peasants mainly wore cheap but durable clothes. Now they are beginning to pay attention to quality and styles. The average expenses of each person on clothing rose from 14.74 yuan in 1978 to 23.57 yuan in 1981. Besides ordinary piece goods and clothes, the peasants also buy synthetic fabrics such as medium- and long-fiber fabrics and polyester. The number of peasants who buy high-grade commodities such as woolen piece goods, silk piece goods, knitting wool, woolen sweaters and long woolen underwear has increased twofold over the last few years. Leather shoes are in vogue among young people in the countryside.

In respect to the use of consumer goods: the number of peasant families that can afford high-grade durable consumer goods such as "three turns and one sound" is increasing. ["Three turns" refers to bicycles, sewing machines and wristwatches; "one sound" refers to radios] in 1981, each 100 persons had 8.07 bicycles on average, an increase of 50.6 percent over 1978; 5.03 sewing machines, an increase of 45.8 percent; 10.01 wristwatches, an increase of 150 percent; 7.67 radios, an increase of 100 percent. Some peasant families are beginning to buy high-class consumer goods such as television sets, washing machines, recorders, electric fans and sofas. In the suburbs of Beijing and Shanghai, "television villages" have emerged, where every household has a television set.

In respect to living: In the past, the peasants were accustomed to building old-fashioned houses, but now they are beginning to get interested in [word indistinct] and bright houses which are artistic in design. The area of new houses built in the countryside over the last 3 years is 1.4 billion square meters, and on the whole the quality of these houses has improved. Nearly each and every family in some high-income production teams is either getting all the materials ready to build their new house or constructing their new house. By the end of 1981, each peasant had an average living area of 10.16 square meters, an increase of 25.4 percent over the 8.1 square meters in 1978. Of the new houses built in 1981, houses of the brick and wood-type accounted for 54.4 percent and houses of the reinforced concrete-type accounted for 2.9 percent. Nearly all the peasant houses newly built in the suburbs of Beijing and Shanghai are of these two types. In Tianjin, Hebei, Liaoning, Jiangsu, Zhejiang and Guangdong, houses of these two types account for 80 percent. New-type buildings suitable for the peasants have been built in some suburban areas.

Following the improvement of the livelihood of the peasants, surplus money and grain have increased. By the end of June 1982, the deposits of the peasants throughout the country was 19.49 billion yuan, an increase of more than 200 percent over 1978. If we consider the fact that the peasants have moved their savings accounts to the cities because they are not willing to show that they are rich, then the peasants' actual deposits are much more than the above figure. The characteristics of rural deposits in the past few years are that savings amounts keeps rising, new depositors have increased in large numbers and the proportion of long-term deposits is large. In respect to grain, it is quite common now that peasant families have several hundred jin or over a thousand jin of surplus grain.

/6. The Rural Market Is Thriving, Both Purchasing and Marketing Are Brisk/

Following the overall development of production in the rural areas, the commodity volume of agricultural and sideline products provided by the peasants and state farms has increased for successive years. In 1981, the total amount of the purchase of agricultural and sideline products by society was 95.5 billion yuan, an increase of 71.2 percent over the 55.8 billion yuan in 1978 (after deducting the prices of goods, the actual increase was 23.6 percent). Of the above percentage, the purchase volume of grain increased by 27 percent, the purchase volume of pork increased by 25.5 percent, the purchase volume of eggs increased by 76.6 percent and the purchase volume of cotton, sugar, flue-cured tobacco and tea leaves increased by over 20 percent. This has energetically supported the development of light industry and solved some problems in the people's livelihood. In addition, the commodities supplied to the rural areas by the state through various channels have increased daily. The total volume of retail sales of commodities in rural areas in 1981 was 132.4 billion yuan, an increase of 63.4 percent over 1978. If we consider the factor of the constant increase of the number of peasants going to towns and cities for the purchase of commodities, the actual growth rate is even higher. In the past few years, because the prices of agricultural and sideline products have been raised and the prices of some industrial products have been lowered, the price differences between industrial and agricultural products have narrowed, and the peasants have gotten more benefits from the exchange of commodities. From the sales of the same quantity of agricultural and sideline products, the peasants could get 26 percent more industrial products in 1981 than in 1978.

Since the implementation of the production responsibility system, the peasants have been very enthusiastic about making large investments in production. The total amount the communes and brigades and the peasants spent for the purchase of the means of agricultural production was 34.75 billion yuan in 1981, an increase of 18.3 percent over the 29.37 billion yuan in 1978. Of the increased percentage, the amount for the purchase of chemical fertilizer increased by 42.2 percent. The sales volume of small farm tools such as shovels, picks, hoes and sickles, which everyone has, has sharply increased. In the past few years, the number of well-to-do peasant households that have singly or jointly bought agricultural machinery such as tractors has increased twofold. Small farm implements which are cheap (not exceeding 1,000 yuan) and light (which can be moved by one or two persons) and which have manifold functions have been well received by the peasants.

In order to promote the exchanges of goods between town and countryside, the localities have energetically restored and developed free markets. In the whole country, there are now 43,000 free markets, in which the volume of business was

25.3 billion yuan in 1981, an increase of 19.3 percent over 1980. According to the statistics of 206 typical market places in the rural areas, the volume of business in the first half of this year increased by 23.4 percent over the corresponding period of last year. Some free markets are run on quite an impressive scale, and business in these free markets is brisk. For instance, in the county seat of Zhongxian County, Ningxia Autonomous Region, free markets are held on the 3d, 6th, 9th 13th, 16th, 19th, 23d, 26th and 29th of the month. There is a great variety of goods in the market place, and on market day people come in an endless stream, sometimes as many as 10,000. Besides the local people, there are also people from the southern mountainous regions of Ningxia and from neighboring provinces.

/7. The Peasants Are Unprecedentedly Energetic About Studying Science and Using Science/

In the past, the peasants "could not decide on what to do." They had no decision-making rights in carrying out their work. Everything was arranged by the cadres of the commune and brigade, and the peasants were not interested in scientific farming. Now they have "allied their hearts with production." They try every means to do a good job in farming, and their enthusiasm in studying agricultural scientific knowledge has been popularly raised. Science and technology have for the first time become much sought after in the rural areas. Wherever I went, people gathered around me, asking for advice. Several thousand communal associations for the popularization of science have been established in the rural areas throughout the country. In many localities, lectures, study classes and training courses on technology have been organized to train peasant technical cadres, who will be required to go to the production site to solve difficult problems on the spot, to pass on knowledge and to popularize the results of their research.

In order to master agricultural technology and culture and knowledge, many peasants take an active part in part-time study. In 1981, there were 411,000 peasants' part-time schools of various levels throughout the country, and the number of students studying in these schools was 10.77 million, of which the number of students in the secondary technical part-time schools was 1.08 million, the number of the students in the peasants' part-time middle schools was 634,000 and the number of the students in the peasants' part-time junior schools was 9.055 million.

/8. The Peasants' Cultural Life Is Beginning To Enliven/

Following the improvement of the material life in the countryside, the peasants are eager to enrich their cultural life and to change their past monotonous habit of "working with a hoe during the day and lying against a pillow at night." In order to meet the needs of the peasants, the departments concerned have energetically organized film projecting teams in the countryside and professional cultural troupes to perform in the rural areas. In 1981, each 10,000 persons in the rural areas throughout the country had an average of one commune and brigade-run film projecting team. Professional cultural troupes put on 520,000 performances in the countryside, and the audiences numbered as high as 520 million. In addition, the localities have formed, one after another, amateur cultural propaganda teams and established part-time study rooms and clubs. Cultural organizations and facilities such as simple cinemas and theaters, cultural centers, libraries and reading centers have been established in the market towns of some rural areas.

From the above we know that gratifying changes have really taken place in China's countryside over the last 3 years. Under such an excellent situation, we should also understand that we cannot yet completely change the backwardness of the rural economy and culture, which have existed for a long time, and that we will have many difficulties in our advance. For instance, the development of the rural economy is in disproportion. The peasants in some rural areas have not completely gotten rid of poverty. In some localities, the production responsibility system has been carried out with a rush. Meticulous attention has not been paid to their work, and there are still many problems with regard to cultivating farmland on a contract basis and to the handling of collective property. The circulation of commodities between town and countryside is not smooth enough. With regard to educational, cultural and public health undertakings, there is a large gap between town and countryside. In some rural areas, family planning is beyond control, and the growth rate of population is rising. Therefore, we must make persistent efforts in rural work so as to speed up the construction of our new socialist countryside.

CSO: 4007/67

BRIEFS

COTTON PURCHASES UP--Beijing, 17 Nov (XINHUA)--China's commercial departments purchased 2,015,500 tons of cotton by 10 November, 340,500 tons over the same 1981 period, according to a national cotton conference which opened here yesterday. The volume purchased represents 72 percent of the 1982 purchase quota. Last year, 2.9 million tons of cotton were sold to the state. The annual state purchase quotas were topped in the four provinces of Shandong, Hebei, Liaoning and Zhejiang. Shandong, Xinjiang, Hebei and Jiangxi all set records with this year's cotton output. The conference estimated that the total cotton output this year will be 350,000 tons more than last year. [Text] [Beijing XINHUA in English 1132 GMT 17 Nov 82 OW]

NEW RAPESEED PAYMENT PLAN--Beijing, 12 Nov (XINHUA)--A new payment plan for purchasing rapeseed will come into force in Sichuan, Anhui, Hunan, Jiangsu and other rapeseed-producing provinces in 1983. According to the new plan, 40 percent of the rapeseed, regardless of quantity, turned in to the state by the peasants, will be paid on the basis of the state monopoly prices and the remaining 60 percent on the basis of the fixed state prices for surplus quantities of rapeseed turned in to the state. This new payment plan was initiated to reduce the financial burden of the state which has, in the past few years, paid about 1.6 yuan for 1 jin of rapeseed purchased from the peasants but has sold them at about 0.8 yuan per jin. [Text] [OW070317 Beijing XINHUA Domestic Service in Chinese 1505 GMT 12 Nov 82]

RECORD COTTON HARVEST--Beijing, 28 Nov (XINHUA)--China reaped a record cotton harvest of 3.35 million tons this year, 350,000 tons more than 1981, the Ministry of Agriculture, Animal Husbandry and Fishery announced. This is the fourth year running since 1979 which first saw increases in cotton output. The increased yields of 1,175,000 tons over the past 4 years equalled the total increased in the previous 28 years. Of the 15 provincial-level cotton producing areas across the country, Shandong which had the biggest increase reported a cotton harvest of 950,000 tons, 275,000 tons more than last year. The next came to Hebei which had an increase of 140,000 tons and Xinjiang which increased 35,000 tons. Jiangsu kept its previous high level of 550,000 tons this year. Shaanxi, Shanxi, Zhejiang and Jiangxi Provinces also registered some increases compared with 1981. [Text] [Beijing XINHUA in English 0707 GMT 28 Nov 82 OW]

CSO: 4020/31

CROP DISEASE ANTIBIOTIC--Beijing, 20 Nov (XINHUA)--An institute under the Chinese Academy of Agricultural Sciences has developed a new kind of antibiotic that is effective against several crop diseases and harmless to both humans and livestock. Antimycoin "120" has a powerful inhibitive or lethal effect on fungi of cucumber, wheat and flower powdery mildew and other diseases, according to the Institute of Pedology and Fertilizers. Experiments in communes of Beijing suburbs show that timely application of antimycoin "120" destroys more than 90 percent of diseases on contaminated cucumber plant, scientists of the institute said. On 17 experimental plots in Shandong and Hebei Provinces, antimycoin "120" eliminated 70 to 80 percent of wheat rust, a disease which cut wheat harvest by 30 to 50 percent in some areas. The institute also conducted an experiment to test whether the antimycoin is toxic. Intake by rabbits of antimycoin "120" over a 2-week period did not cause any abnormal function of heart, lungs, liver or other organs, the institute said. [Text] [Beijing XINHUA in English 1220 GMT 20 Nov 82 OW]

GUANGDONG RICE LEAFHOPPERS--In close coordination with each other, all departments in Guangdong Province did well in eliminating rice leafhoppers which damaged the late rice crop. From the end of September to the middle of October, 10 million my of late rice had rice leafhoppers and generally, each 100 grains had 5,000 to 6,000 and up to 20,000 to 30,000 rice leafhoppers, an increase of some 1,000 to several 1,000 percent on previous years. This seriously threatened late rice production. After discovering these rice leafhoppers, all areas immediately took urgent measures to eliminate them. On 27 September, the general office of the provincial government issued an urgent telegraphic circular to all places on quickly wiping out rice leafhoppers damaging late rice. As a result of the efforts made by all areas, large areas of insect pests were quickly put under control. According to statistics compiled by relevant departments, only 10 percent of the 10 million mu where there were insect pests suffered varying degrees of loss. [Text] [HK161313 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 4 Nov 82]

COMMUNE CONGRESS TERM--Beijing, 19 Nov (XINHUA)--The 25th session of the 5th NPC Standing Committee has decided that the present term of the people's congresses at the commune and town level directly elected by voters, an experiment which started in the latter half of 1979 and ended at the end of 1981, is extended to the end of 1983. [Text] [OW191315 Beijing XINHUA Domestic Service in Chinese 1155 GMT 19 Nov 82]

CSO: 4007/67

ANHUI PROVINCE GATHERS RECORD 1982 HARVEST

OW030938 Beijing XINHUA in English 0804 GMT 3 Dec 82

[Text] Hefei, 3 Dec (XINHUA)--Anhui, the first province in China to institute the responsibility system in agriculture, gathered a record harvest this year despite floods and waterlogging caused by heavy summer rainfall, the provincial agricultural department reported.

Grain output totalled 18.5 million tons, 350,000 tons more than the peak year of 1981, the department said. The figure represents an increase of 3.5 million tons over 1977, the year before the system went into effect.

Output of oil-bearing crops was 1.25 million tons, 26 percent more than 1981 and 4.3 times that of 1977, the department said. Records were also set in output in tea, flue-cured tobacco, fruits, freshwater fish, and in the number of draught animals and poultry.

The good harvest is due largely to popularization of new agrotechniques and good crop varieties, soil improvement and increased use of fertilizer, the department said. Waterlogged fields were promptly drained and replanted. This year, the province planted hybrid rice varieties on 133,000 hectares, a 28.6 percent increase over last year. Fine varieties of seeds were used on most of the wheat and rice fields.

The responsibility system, whereby peasant families farm the collectively owned land under contracts, has enhanced the initiative of the peasants. This is because peasant families are now given more right in farm management and their income depends on the harvests from their contracted land.

The department estimates that per capita income for Anhui's peasants will average 240 yuan this year, 40 yuan more than last and 140 percent above 1977. Of Anhui's 70 counties, 24 expect an average per capita income exceeding 300 yuan.

By 21 November, the department said, peasants had sold nearly 3.5 million tons of grain to the state, 850,000 tons more than in the same 1981 period. Grain sold by the peasants to the state now accounts for 26 percent of the total annual grain harvest, compared with the previous 19.3 percent.

Grain storage capacity has been expanded by one-fifth in the past four years, but is proving to be insufficient. Large numbers of makeshift bins have been put up by government grain stores and peasant families to contain the newly harvested crops.

Peasants in flood-hit Chuxian Prefecture--the first to institute the system in Anhui--will sell 750,000 tons of grain to the state this year: 60,000 tons above last year, the department said. This is an average of 259 kilograms per capita, ranking first in the province.

CSO: 4020/31

NPC DELEGATE ON PROVINCE'S HARVEST

OW031128 Beijing XINHUA in English 1109 GMT 3 Dec 82

[Text] Beijing, 3 Dec (XINHUA)--East China's Anhui Province is expected to bring in another bumper harvest this year despite bad weather, reported Vice Governor Meng Fulin, who is here attenting the National People's Congress.

This will be the fourth good year since the province instituted the responsibility system in agricultural production in ouom.

In an interview with XINHUA today, Meng Fulin recalled that more than one-sixth of the province's croplands suffered from natural disasters in 12 of the 33 post-liberation years, each time causing an average loss of 1.15 million tons of grain. But this year, grain output will surpass the record 1981 harvest, although a quarter of the croplands were affected by serious waterlogging.

"This shows the advantage of the production responsibility system," he said.

Anhui was one of the first provinces in China to introduce the system. "The peasants like it, because it gives them greater freedom to arrange their time and work and encourages them to work harder and earn more," the vice governor said.

In 1981, Anhui's grain output reached 18.15 million tons, 22.68 percent more than that of 1978, he said. The output of industrial crops increased even faster in that period, when the growth rates for cotton, oil-bearing crops, cured tobacco, bast fiber crops and tea ranged from 24 percent to 205 percent. Forestry, stock breeding, sideline production and fishery also developed rapidly.

Meng Fulin said growing output has resulted in more income for the peasants. The per capita income of Anhui Province's rural population derived from the collective last year was 87 percent higher than in 1978.

CSO: 4020/31

CIRCULAR ISSUED ON VEGETABLE SUPPLY

OW170637 Hefei Anhui Provincial Service in Mandarin 1100 GMT 15 Nov 82

[Excerpts] According to an ANHUI RIBAO report, the provincial vegetable production and marketing office recently issued a circular calling on the various prefectures and municipalities to seriously implement Comrade Chen Yun's directive, do a good job in the production, supply and marketing of autumn vegetables and take effective measures to ensure plentiful vegetable supplies during the coming winter-spring season.

The circular proposes:

1. Immediately organize agricultural scientific personnel to closely inspect commune and brigade vegetable fields plot by plot in coordination with local agricultural scientific stations.

2. Do a good job in the production and field management of overwintering vegetables. Water oats, spinach, lettuce and garlic are major varieties of vegetables for next year's spring vegetable market. Overwintering vegetables must be grown in the 70,000 mu of vegetable plots--a project that has been approved this year. Efforts must be made to strengthen field management and increase production and income.

3. Do a good job in harvesting, supplying, storing and perserving autumn vegetables. All units, armymen and people must be encouraged to grow overwintering vegetables. Those production teams who specialize in growing vegetables must not sell their vegetables at a high price on the local market before they have fulfilled their contract targets. The retail prices for various major autumn and winter vegetables must remain stable as last year's.

4. Allow for unforeseen circumstances in planning vegetable supplies for the coming winter-spring season.

CSO: 4007/67

SHORTAGES OF SOME FOODS LEAD TO LINES

OW090601 Beijing XINHUA Domestic Service in Chinese 0020 GMT 1 Dec 82

[Newsletter by XINHUA reporter Chen Xianxin: "What the Masses Urgently Need Must Be Promptly Resolved--A Situation Reflected by the Sale of Dezhou Braised Chickens in Beijing"]

[Excerpts] Beijing, 1 Dec (XINHUA)--Toward the end of last year, a store selling Shandong braised chickens was opened in Beijing's Xidan District to the great delight of the people in Beijing. The problem was: The demand far exceeded the daily supply of 400 to 600 chickens because of the limited supply of raw chickens and limited processing capabilities, so the customers had to line up in front of the shop early in the morning in order to buy a chicken. The store's next-door neighbor, the Heavenly Fortune, is another store selling soysauce-preserved pigs feet, a dish of typical Beijing flavor. Like its neighbor, its supply could not meet the demand, so there were always two long lines of people in front of these two stores.

Similar long lines can also be seen in other places, such as the shop selling cold noodles at the northern end of Fuyou Street. The lines in front of the store selling vegetarian food and the Donglaishun Restaurant on Wangfujiang Street are even longer--and it has been like this for years. In many other places, the scenes of people standing in line to buy beancurd and bean products and to pick up milk are common.

These days, when the weather is getting colder and colder, can anything be done so that people do not have to stand in long lines on the street in the cold? For this reason, this reporter recently visited certain departments concerned and interviewed some urban residents. They maintain that the Beijing authorities have performed many good services for the people in recent years, but that the handling of certain other urgent problems is still too slow. They also put forward the following suggestions:

1. The authorities concerned must have a sense of urgency. After a central leading comrade became aware of the long lines in front of the chicken store, he kept the problem in mind. First he instructed the Beijing Municipal Government to solve the problem, and then instructed the Ministry of Commerce to handle it. The problem was finally resolved after the China Food Company of the Ministry of Commerce held a meeting to discuss a solution to the problem with other

authorities concerned in Beijing. If other authorities concerned in Beijing also cared for the interests of the people like the leading comrade of the central authorities did, other problems could certainly be solved much faster.

2. Practical actions have to be taken. In certain cases, the problem of standing in line may not be very easy to solve; but many other problems can be solved with some effort. For example, the solution to the problem of picking up milk is simply a matter of setting up additional points and lengthening the service hours. If there are not enough people to do the job, as some people have claimed, there is currently a large number of young people waiting for employment. Why can these young people not be hired as temporary or contract workers so that this problem can be settled?

3. The leading authorities must dare to make decisions. The reason why certain urgent problems have remained unresolved is not because they cannot be solved, nor is it because the people at the basic-level units are not willing to solve them; it is because of the fear of the responsible departments to make decisions, and the reason for their fear of making decisions lies in their fear of being held responsible. So, whenever there is a problem that needs their attention, they glance left and right for fear that somebody might have been offended or neglected by their actions. Consequently, they are hardly capable of a decision. These days the problem of eating a meal in Xidan District is a serious one since five restaurants of the Xidan market have suspended operations after the Tangshan earthquake in 1976 and their buildings are considered unsafe. To discuss relocation and other problems, 12 meetings have already been held this year by the responsible department and various other units concerned, but a final decision has yet to be made. The meal problem still remains today.

CSO: 4007/67

'XINHUA' REPORT ON INDISCRIMINATE TREE-FELLING

OW240613 Beijing XINHUA Domestic Service in Chinese 1134 GMT 23 Nov 82

[Text] Beijing, 23 Nov (XINHUA)--XINHUA reporter Cui Lisha has learned from the Ministry of Forestry that, after a month of vigorous effort, various provinces, municipalities and autonomous regions have achieved initial results in implementing an "urgent directive calling for stopping indiscriminate tree-felling" issued by the CPC Central Committee and the State Council. In areas where forests are rather seriously damaged, the evil practice of indiscriminate tree-felling has been checked to a certain extent.

The CPC Central Committee and the State Council issued the "urgent directive calling for stopping indiscriminate tree-felling" on 20 October. Paying close attention to the directive, various provincial, municipal and autonomous regional party committees promptly took effective measures to implement it. The party committees and governments of eight provinces and autonomous regions--Nei Monggol, Shanxi, Shaanxi, Guangxi, Guizhou, Xinjiang, Heilongjiang and Qinghai--immediately called meetings to discuss and make arrangements for implementing the "urgent directive." The party committees and governments of 17 provinces and autonomous regions held telephone meetings and issued specific circulars or instructions calling for implementing the "urgent directive" according to local conditions. First secretary Huo Shilian of the Shanxi Provincial CPC Committee personally presided over a meeting to discuss the question of how to implement the "urgent directive." He said: Implementing the "urgent directive" is not only holding meetings; what is important is to carry it out practically. On 8 November, the Shanxi Provincial People's Government called together cadres of the counties where forests had been seriously damaged to discuss concrete measures to stop indiscriminate tree-felling.

Following the example set by the central disciplinary commission in sending work teams to assist provinces and autonomous regions in handling major cases of denudation, various provinces, municipalities and autonomous regions have dispatched work teams composed of personnel from public security, procuratorial and judicial departments to areas where forests have been seriously damaged. Vigorously publicizing the "urgent directive," those work teams have assisted local authorities in grasping what is practical, dealing with hard cases and investigating cases of denudation. They have handled a number of cases in which leading cadres took the lead in stripping lands of forest as well as cases of a vicious character.

Recently, the Jian Prefectural Party Committee in Jiangxi Province severely dealt with the case of Liu Zhongdao, Standing Committee member of the Anfu County Party Committee and deputy head of the county, who formed a partnership to purchase green hills and illegally transport lumber. The prefectural party committee has punished Liu Zhongdao by removing him from his post in the party and has proposed to the local government to dismiss him from his post as deputy county head. Liu Dulian of Hecheng town, Qingtian County, Zhejiang Province, was sentenced to death and immediately executed for illegally felling trees and killing a forest ranger.

The CPC Central Committee and the State Council have assigned responsibility for the protection of forests to the county party committees and people's governments. As a result, some leading cadres at the county level, who felt a lack of authority to stop indiscriminate tree-felling in the past, have been able to stand erect, and those who used to wink at cases of denudation have been shaken up.

They have now swung into action. According to incomplete statistics compiled by Zhejiang Province, prefectures and counties in the province have sent out 150 work teams with the participation of nearly 1,000 cadres at various levels. Various prefectures and counties in Hunan Province have released more than 6,700 personnel from other work to sort out cases of denudation. Those personnel have discovered, through investigation, that more than 8,400 cubic meters of lumber were illegally felled and transported, and they have imposed fines totaling over 31,000 yuan. They have dealt with 83 persons who illegally felled trees and have had 73 of them arrested. Ten production teams of the Niuweishan and Xiboling brigades under the Yangshulin commune in Nongan County, Jilin Province, had, since 1979, seized more than 1,350 mu of state-owned forests, destroyed forest rangers' houses, folled their wells and forcibly harvested over 300 mu of crops planted by forest farms. These cases remained unsolved for several years. After the "urgent directive" was issued, the county party committee immediately organized a work team to thoroughly investigate these cases. This work team made a decision on the handling of these cases in 9 days.

While implementing the "urgent directive," all localities have paid attention to strengthening forest administration, frozen the felling of trees beyond the state plan and closed free lumber markets. Sichuan and Henan Provinces have closed 124 such markets in their counties. Lishui, Jinhua, Wenzhou and other prefectures (municipalities) in Zhejiang Province, in 10 days, closed over 140 free lumber markets and discovered a number of cases of indiscriminate tree-felling and profiteering by buying lumber cheap and selling it dear. The Guizhou Provincial Party Committee and people's government have recently decided to institute a system on 1 December under which trees are to be felled throughout the province only by permit. Those who cut trees without permission from departments in charge of forestry will be dealt with as indiscriminate tree-fellers.

According to information provided by the Ministry of Forestry, although tremendous achievements have been made in implementing the "urgent directive" of the CPC Central Committee and the State Council, leading cadres in a few localities have still underestimated the seriousness of indiscriminate tree-felling, have no clear idea of major cases of denudation and have only issued general calls in leading the work in this regard. Cases of indiscriminate tree-felling have continued and even such serious cases as jointly attacking or beating up work team members trying to stop indiscriminate tree-felling have taken place in some individual localities after the central authorities issued the "urgent directive." Even in places where the "urgent directive" has been better implemented, the task of investigating and handling cases of denudation is still arduous. This calls for all localities to continue to make vigorous efforts to effectively implement the "urgent directive."

CSO: 4007/67

BROADCASTS DISSEMINATE AGRICULTURAL EXPERTISE

OW011009 Beijing XINHUA in English 0810 GMT 1 Dec 82

[Text] Beijing, 1 Dec (XINHUA)--Crop yields and agricultural expertise have been boosted through popular science loudspeaker broadcasts in Beijing's rural suburbs, according to Jia Yongling, member of Da Xing County's broadcasting station.

A loudspeaker network connected with transmission stations in production brigades throughout Beijing's nine surrounding counties has been established by the broadcasting stations set up by the county governments. Almost all the villages in the counties have loudspeakers fixed on poles, making their broadcasts audible across wide areas. Programs are aired one hour in the morning and another hour in the evening, with agroscience broadcasts two or three times each week, Jia Yongling said.

The Da Xing station alone has broadcast 408 programs contributed by experienced peasants and experts. The programs have covered subjects such as planting, fertilizing, irrigation and management of wheat and maize, the main crops of north China, cultivation of watermelon and peanuts, profitable sideline crops, pig and chicken raising and the use of marsh gas and solar energy. The broadcasts give advice on local climate, soil and economic value, Jia Yongling said.

The stations often receive requests for repetition, further details and other information. Some communes have recorded the programs and arranged workshop sessions, he said.

A typical example is that of a 50-year-old peasant Xie Tian of Caiyu Commune. However a program of scientific farming is on the whole family of seven hushed up. Even kids learned to keep quiet. Sometimes, there is a bit of controversy among the family members over the methods. But Xie Tian said: "I am willing to follow the broadcasted instructions. I will be the head of the experimental group." This year he reaped over ten tons per hectare on the land he tilled under the responsibility system.

CSO: 4020/31

BRIEFS

RURAL CADRES' AGRICULTURAL STUDY--Beijing 24 Nov (XINHUA)--More than 5,000 rural cadres from all over China have attended training classes to study agricultural sciences since 1979, and 900 are now studying. This was disclosed by the Educational Department of the Ministry of Agriculture, Animal Husbandry and Fishery. The training classes, 4-1/2 months each term, started in September 1979. The participants study 12 to 15 subjects during the training period, including agroeconomics, agronomy, veterinary science and farm machinery. The participants, including provincial, prefectural and county-level cadres, average 50 years old. Most of them took part in the revolution before liberation in 1949. They have rich experiences but still have to acquire more systematic scientific knowledge. The Party Central Committee has urged cadres in charge of rural work to study agricultural sciences time and again since December 1978. [Text] [Beijing XINHUA in English 0838 GMT 24 Nov 82 OW]

CSO: 4020/31

BRIEFS

BUMPER HARVESTS--Fujian has reaped a bumper harvest again this year, 6 years in a row. Its total grain output can reach 16 billion jin, an increase by 400 million jin. [OW070556 Beijing Domestic Service in Mandarin 1200 GMT 20 Nov 82 OW]

TEA PROCUREMENT--Fujian has basically completed its procurement of tea this year. Currently, Fujian has procured 477,900 dan of tea, an 8.8-percent increase over last year. [Fuzhou FUJIAN RIBAO in Chinese 16 Nov 82 p 1 OW]

CSO: 4007/67

BRIEFS

SUGARBEET PRODUCTION--Since 1980, sugarbeet production in Gansu Province has greatly increased each year. The province's areas sown with sugarbeets this year have reached some 98,000 mu and are some 200 percent higher than in 1979. The amount of sugarbeets procured by the province this year is approximately 130,000 tons. The province has quadrupled its output of sugarbeets within 3 years. Since 1979, the provincial people's government has reiterated its policy that 10 jin of sugarbeets is equal to 1 jin of grain for procurement and has raised the sugarbeet procurement price from 3 fen per jin to 3.9 fen per jin. After this policy was followed, commune members' enthusiasm in cultivating sugarbeets was gradually aroused. [HK071503 Lanzhou Gansu Provincial Service in Mandarin 0420 GMT 4 Dec 82 HK]

FORESTY MEETING--From 3 to 7 November, the Ministry of Forestry held an appraisal meeting in Tianshui, Gansu Province. The meeting held that the method of cultivating forests on the Xiaolongshan Mountain in Tianshui can be applied and popularized in the northern part of the country. This scientific research was conducted by the Research Institute of Forestry of the Academy of Forestry Sciences of China, the Provincial Research Institute of Forestry Sciences and the Xiaolongshan Forestry Experimental General Farm in Tianshui Prefecture for over 20 years. Experts, professors and engineers attended the meeting. [HK171538 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 15 Nov 82 HK]

WATER, SOIL CONSERVATION--The Gansu provincial conference on water and soil conservation ended yesterday. The conference reiterated the principle that whoever undertakes and controls water and soil conservation benefits. The conference also decided that the Dingxi, Jingchuan, Qinan and Ning counties are the key counties where water and soil conservation is undertaken and controlled. The conference pointed out that the province has achieved good results in bringing soil erosion under control. However, the cadres and commune members in a very large number of communes and brigades do not now deeply understand the relations between water and soil conservation and rebuilding ecological balance and human subsistence. These communes and brigades often bring soil erosion under control on the one hand and sabotage water and soil conservation on the other hand so as to damage the ecological environment and increase natural disasters. To improve this situation as quickly as possible, the conference demanded that all places take resolute measures to curb the damage to forests and grass and the sabotage of water and soil conservation. They must vigorously plant trees, grow grass and step up farmland capital construction. At the conference, Vice Governor Zhang Jiangang made a report, entitled: "It is necessary to seriously implement the spirit of the national conference on water and soil conservation work and strive to create a new situation in water and soil conservation work in our province. [HK231341 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 19 Nov 82 HK]

TREE PLANTING--Delegates to the Gansu provincial meeting of model workers helped plant trees and clean streets and paths in various places in Lanzhou on 10 November. Also participating were provincial CPC committee first secretary Feng Jixin, Governor Li Dengying, and Gansu military district Commander Li Bin. [HK110615 Lanzhou Gansu Provincial Service in Mandarin 0420 GMT 11 Nov 82]

GRAIN PRODUCTION FORUM--The forum on the development of grain production in the Hexi area held by the Shaanxi Provincial People's Government [as printed], concluded in Zhangye yesterday. Provincial agricultural committee chairman (Li Zhong) made a report, entitled "It is essential to seriously implement the spirit of the 12th Party Congress and to speed up the development of the Hexi commodity grain base." Governor Li Dengying and provincial CPC committee advisor (Yang Shouren) attended and spoke. In his speech, Li Dengying said that speeding up the building of the Hexi commodity grain base is a major task which has a bearing on the 3 million people in the Hexi area as well as on agriculture and the national economy throughout the province. He said that a very large area in the center of the province is not self-sufficient in grain. To change this situation of hardship, we must mainly rely on the development of the Hexi commodity grain base. In so doing, we must tap potential and reclaim wasteland. The Hexi commodity grain base must regard grain production as the main work. While grasping grain production well, it must vigorously develop diversification. [HK081409 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 28 Oct 82 HK]

CSO: 4007/67

NPC DEPUTIES NOTE ECONOMIC BOOM

HK270601 Beijing XINHUA Domestic Service in Chinese 0333 GMT 27 Nov 82

[Text] Beijing, 27 Nov (XINHUA)--Guangdong Province has reaped a great bumper harvest in agriculture this year. Total grain output is expected to top last year's by more than 10 percent and to set a new record. This was said to our reporter by Guangdong deputies attending the Fifth Session of the Fifth NPC.

Harvesting of the late rice is now almost completed. The province's total grain production is expected to show an increase of about 4 billion jin over last year.

While the province has been achieving bumper agricultural harvests, its industry has also developed relatively fast. According to material provided by responsible persons of the province's industrial departments, total value of output from January to October increased by 9.31 percent over the same period last year. This included an increase of 10.53 percent in light industry and 7 percent in heavy industry. Total industrial output value over the whole year is expected to top last year by about 8 percent.

The development of production has provided relatively ample commodities for the urban and rural markets, where supplies are becoming more and more abundant. In the first 10 months of the year, the total retail sales volume of social commodities was 17 percent greater than in the same period last year. This included a rise of 16.9 percent in retail sales volume of production materials, which are mainly bought by the peasants and collective units.

There has been new growth in the incomes of the urban and rural people. This is shown not only in the big increase in volume of commodity retail sales but also in the rise in urban and rural savings deposits. According to statistics of end-October, individual urban and rural savings deposits in the province had reached 5.98 billion yuan, a rise of over 30 percent compared with the same time last year.

At the same time, the situation in the province's expenditures and revenue is very good. Revenue has increased by 4.5 percent compared with the same period last year.

In the wake of the all-round upsurge in the economy, plus the measures taken by the government, prices in the provinces have tended to be stable this year, with the price increase index being lower than last year. There are ample vegetable supplies in the urban areas, and the general level of retail prices has fallen. Meat supplies are also greater than last year, and the prices of industrial products have been stable, with a tendency to fall.

CSO: 4007/67

BUMPER AGRICULTURAL HARVEST REPORTED

HK300241 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 29 Nov 82

[Text] This year the rural areas of Guangdong have seriously implemented various types of production responsibility system and vigorously popularized scientific cultivation. As a result the province has scored an all-round bumper harvest. According to investigations conducted by the provincial statistics bureau, total grain output is expected to reach 37.5 billion jin, an increase of 4.6 billion jin over last year and of 1.5 billion jin over the previous record, set in 1980. This was achieved despite a reduction of 1 million mu in the sown area. Total grain output and average yield and the total output of sugarcane, peanuts, soybeans and tobacco have all set new records. The total value of agricultural output over the whole year is 12.74 billion yuan, an increase of 721 million yuan--6 percent--over last year. This is a rate not seen for many years.

At present the rural areas of the province present a scene of prosperity and the peasants are in high spirit. This situation is one of the best since liberation. There are four main special features of this year's all-round bumper harvests:

1. Increased output of grain was gained from all three harvests, spring, summer and autumn, and large, balanced increases were achieved over wide areas on the plains, in the hills and mountains, and on high and low-yielding land. All 13 prefectures, administrative regions and municipalities increased production.

2. Apart from hemp and bluish dogbane, relatively great increases were recorded in the main industrial crops.

3. The bumper harvest of grain and industrial crops has promoted the development of animal husbandry.

4. In the wake of increased agricultural output and income, the peasants' incomes have increased everywhere. The average net income per peasant may well reach 380 yuan, an increase of 55 yuan--16.9 percent--over last year.

CSO: 4007/67

AUTUMN GRAIN PROCUREMENT DISCUSSED

HK031100 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 2 Dec 82

[Text] Recently, the provincial people's government issued a circular on seriously doing a good job of procuring and storing autumn grain. Various areas are called on to strive to fulfill and overfulfill the general grain procurement plan for the whole year.

The circular said that our province achieved bumper harvests of early and late crops this year. This will play a positive role in enlivening the urban and rural markets, stabilizing prices and realizing the objectives of struggle put forth at the 12th CPC National Congress.

The demands of the circular are:

1. We must insist on upholding the principle of contracting for grain and making a unified assessment every 3 years. The fulfillment of the state general grain procurement plans to which production teams and peasant households are committed, must be guaranteed. This year, except for a small number of teams and households seriously affected by natural calamities in some areas, which have been granted reductions or exemptions in grain sales in an assessment based on the relevant policy, no team or household can fail to fulfill procurement plans in time. Those for whom the fulfillment of procurement quotas was deferred last year due to natural disasters or whose quotas have still not been fulfilled after reduction or remission last year due to natural disasters, must fulfill their quotas. State farms, including overseas Chinese farms, which have contracted for state grain procurement plans must guarantee their fulfillment.

2. We must properly take care of the fulfillment of extra grain procurement quotas and the organization of grain storage. Extra grain procurement quotas are a component of the state procurement plan. Fulfillment of extra grain procurement quotas is the peasants' obligation to the state that should be carried out.

Concerning a small number of areas where work for the fulfillment of extra grain procurement quotas has not been put on a solid basis, we must place it on a firm basis from team to team and household to household and pay close attention to organizing grain storage. The aim is to have extra grain procurement quotas fulfilled.

3. We must energetically procure fine-quality grain and insure the fulfillment of export plans. Where procurement contracts have been signed with production teams and peasant households and the required chemical fertilizers have been provided, production teams and peasant households must fulfill procurement plans based on contracts. Production teams and households which have fulfilled annual general grain procurement plans for early crops and which have grain ration problems after selling fine-quality grain from late crops may have common-grade in exchange where common-grade grain is available in the state granary. After fulfilling plans based on contracts, those production teams and households which still have fine-quality grain left may sell it to the state at negotiated prices.

The circular stressed that governments at all levels cannot slacken in any way their vigilance in regard to the grain problem. Still less can they use grain freely after a bumper harvest is achieved in one year. They must direct serious and proper efforts to autumn grain procurement. Before the end of the year, they must complete the task of procuring and storing grain.

CSO: 4007/67

FORESTRY MINISTER YANG ZHONG VISITS HAINAN

HK110658 Haikou Hainan Island Service in Mandarin 0330 GMT 11 Nov 82

[Text] Minister of Forestry Yang Zhong inspected forestry work in Hainan from 2 to 9 November. He made important speeches on how to implement the Central Committee and State Council urgent instructions on curbing indiscriminate lumbering and speed up forestry development in Hainan.

Comrade Yang Zhong conveyed to responsible comrades of the regional CPC committee and commissioner's office and the autonomous prefectural government the important speeches of Premier Zhao Ziyang and leading comrades concerned of the State Council. He suggested holding meetings of county CPC committee secretaries, county heads, and principal responsible persons of the agricultural reclamation system, the PLA, and the public security departments, procuratorates and courts to seriously study the urgent instructions of the Central Committee and State Council and the speeches of Zhao Ziyang and other leading comrades, to unify thinking and adopt effective measures to resolutely curb the bad trend of indiscriminate lumbering.

During his inspection, Comrade Yang Zhong went to some commune and brigade forest farms in Qionghai and Wanning counties, the (Shangshan) State Forest Farm, and the (Tianfangling) Tropical Forest Reserve. He met (Xiao Jiahe), CYL branch secretary of (Lelai) brigade of (Lelai) commune in Wanning County, a regional standard-bearer in forestry production.

Comrade Yang Zhong gave quite a high evaluation of the region's forestry technique, organizational forms and achievements. He said: "Hainan Island has excellent conditions for developing forestry production. It also has experience in this respect. To promote forestry protection and afforestation represents an important way for the Hainan people to get rich through hard work. With forestry work promoted, Hainan will become a treasure island worthy of the name.

CSO: 4007/67

BRIEFS

HAINAN PEASANTS' INCOME INCREASES--The Hainan Statistical Bureau has conducted a sample investigation of the economy of 120 households of commune members in Wenchang, Qionghai, Dingan and Dan counties. In the third quarter of this year, the average monthly income of each household was 249.3 yuan and the per capita monthly income was 41.8 yuan, which was 16.9 yuan more than in the second quarter. These are the highest records in the region since liberation. In the third quarter, each of these 120 households spent 446.4 yuan in cash on commodities, an increase of 37.4 percent over the second quarter, and 152.5 yuan on the means of production, an increase of approximately 100 percent over the second quarter. [Haikou Hainan Island Service in Mandarin 0330 GMT 8 Nov 82 HK]

HAINAN BUMPER AGRICULTURAL HARVEST--Compared with last year, in the Hainan administrative region this year, grain production has increased by some 190 million jin, an increase of 8 percent; oil-bearing crop production has increased by 20.97 million jin, an increase of 53.7 percent; sugarcane production has increased by 700,000 tons, an increase of 70 percent; production of dry rubber pieces has increased by 1,171 tons, an increase of 12.2 percent; pepper production has increased by 7,360 dan, an increase of 29 percent; pineapple production has increased by 200,000 dan, an increase of 80 percent; and cashew nut production has increased by 6,810 dan, an increase of some 100 percent. The region has a large number of communes in which the average per capita income is over 500 yuan; and a large number of brigades in which the average per capita income is over 1,000 yuan. Some peasant households each annually sell over 20,00 [as printed] jin of grain to the state. According to incomplete statistics, the whole region has trained some 300,000 peasant technicians this year. [HK071505 Haikou Hainan Island Service in Mandarin 0330 GMT 4 Dec 82 HK]

WATER CONSERVATION FUNDS--The Guangdong Provincial People's Government recently decided to allocate 4.46 million yuan of additional special funds to support disaster stricken areas to quickly repair water conservation projects. These areas include Hainan Administrative Region and Zhanjiang Prefecture, which were hit by typhoons Nos 17 and 21, and Shaoguan, Zhaoqing and Huiyang Prefectures, which were flooded this year. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 14 Nov 82 HK]

CSO: 4007/67

BUMPER HARVESTS IN AGRICULTURE REPORTED

HK030807 Beijing ZHONGGUO XINWEN SHE in Chinese 0715 GMT 1 Dec 82

["Guangxi Reaps an All-Round Bumper Harvest in Agriculture"--ZHONGGUO XINWEN SHE headline]

[Text] Nanning, 1 Dec (ZHONGGUO XINWEN SHE)--The Guangxi Zhuang Nationality Autonomous Region reaped an over [word indistinct] bumper harvest in agriculture this year. According to the latest statistics, grain output has totaled 25.5 billion jin, an increase of 2.5 billion jin or over 10 percent over that of last year. The total output of industrial crops and meat as compared with that of last year is as follows: an estimated increase of 28 percent in sugarcane; an increase of 23 percent in fruits; a relatively big increase in tea, silkworms, tobacco, ramie, rape seed and cassave; and an increase of 11.2 percent in pork, beef and mutton, with a total output of 930 million jin.

This year Guangxi has comprehensively implemented the production responsibility system, stabilized cultivated land for grain crops, increased cultivable land for industrial crops in a planned way and popularized agrotechnology. Localities in southern Guangxi where agriculture is relatively developed have reaped a bumper harvest as well as mountainous districts in western Guangxi where production levels are relatively low. Grain output in counties in the south including Yulin, Beiliu, Rongxian, Luchuan, Bobai, Pingnan, Qinzhou, Hepu, Pubei, Lingshan, Yongning and Hengxian, have all exceeded 100 million jin. A large number of "outstanding peasant households" each of which has produced 20,000 jin of grain and has an income of over 10,000 yuan have emerged in rural areas in various localities.

CSO: 4007/67

BRIEFS

GRAIN PRODUCTION--The autumn harvest in Guangxi region has basically ended. Total output of grain of the region for the whole year reached some 25 billion jin, an increase of some 2 billion jin over last year. This is a record year since liberation. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 24 Nov 82 HK]

RAMIE PRODUCTION--Ramie production in Guangxi region has increased this year. According to statistics, by the end of October all supply and marketing departments throughout the region had procured some 28,000 dan of ramie, some 9,000 dan more than in the corresponding period last year. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 17 Nov 82 HK]

MID-SEASON RICE--By 21 October, Guangxi region had reaped some 1.42 million mu of mid-season rice, which accounted for 52 percent of the sown area. In this period, the region had reaped 240,000 mu of mid-season rice more than in the corresponding period last year. Hechi Prefecture had reaped 300,000 mu of mid-season rice, with its total output being some 34 million jin more than last year. Wuzhou Prefecture reaped some 47,000 mu of mid-season rice. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 26 Oct 82 HK]

NANNING PREFECTURE WINTER SOWING--By 20 October, Nanning Prefecture in Guangxi region had carried out winter sowing on 928,000 mu, which was 100 percent larger than last year. The prefecture had cultivated green manure, buckwheat, sweet potatoes, vegetables and beans on some 110,300 mu. To strengthen leadership over winter sowing, all counties and communes must each assign a leading member to take charge of this work and send relevant personnel to grassroots units to sum up and popularize typical experiences. All trades and departments must support winter sowing. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 26 Oct 82 HK]

CSO: 4007/67

BRIEFS

DRAUGHT ANIMALS--Guiyang, 7 Nov (XINHUA)--According to statistics released by the Guizhou Provincial Animal Husbandry Department, the number of draught animals raised in the province reached over 4.55 head over 1978. This achievement was made through the implementation of the responsibility system in raising draught animals, mostly oxen and horses. [OW040511 Beijing XINHUA Domestic Service in Chinese 0015 GMT 7 Nov 82 OW]

CSO: 4007/67

GOOD AUTUMN GRAIN HARVEST REPORTED

OW081209 Beijing XINHUA in English 0804 GMT 8 Dec 82

[Text] Shijiazhuang, 8 Dec (XINHUA)--Hebei Province reaped 12 million tons of autumn grain to raise the annual output to 16.5 million tons, 8.5 percent more than last year, the provincial statistical department said.

One of the nation's major grain and cotton producers, the province also got a record cotton harvest of 325,000 tons, 46.7 percent above last year's and the output of oil-bearing crops was above 50,000 tons, 7.5 percent more than last year, it said.

At the end of November, the north China province had set aside 2.23 million tons of grain and 295,000 tons of cotton for state purchase, surpassing the annual state quotas by 3.3 percent and 18.9 percent, respectively, the department said.

Eight counties reported that they have doubled their 1978 output value. Seven of them are in the disaster-ridden, low-yielding Heilonggang area in the eastern part of the province.

The department attributed the good harvest to an increase in hectarage planted to grain and cotton and scientific farming.

The hectarage planted to cotton increased from last year's 530,000 hectares to 713,000 hectares this year, and the hectarage planted to sorghum, millet and sweet potatoes also increased.

The peasants, the department said, were motivated by the production responsibility system, which has been instituted in more than three-fourths of the total production teams. With greater power of management and increased profits under the system, the peasants planted crops best suited to local conditions and applied the latest agrotechniques. The provincial agrotechnical department organized training classes, signed technical contracts, provided technical information and set up demonstration centers to spread agrotechniques urgently needed by the peasants.

Companies that provide insecticidal services were set up in 383 people's communes and 570 technicians contracted with the peasants to provide plant protection services. The department said most of the peasants in the province have some knowledge of the scientific application of fertilizer, rational close planting, seed selection and systematic management.

CSO: 4007/67

BRIEFS

BUMPER HARVEST--Hebei has reaped a bumper autumn harvest. Grain output is expected to reach 24 billion jin, 1.1 billion more than last year, and cotton production is expected to reach 650 million jin, 200 million more than last year. Oil-bearing crop production is more than 1.1 billion jin, which is higher than last year. The fundamental reason for this success is that the province is practicing responsibility systems. According to statistics, 78.3 percent of production teams have instituted the system of assigning the land to the households in exchange for fixed levies or the system of fixing output quotas for each household, and 73.3 percent of these teams are practicing the system of assigning contracts to each household, compared with 29 percent last autumn. Apart from that, the province readjusted crop areas to suit local conditions. The sown area of cotton was 34 percent greater than last year. Scientific cultivation was further popularized. [HK180735 Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 17 Nov 82 HK]

AUTUMN WHEAT SOWING--Shijiazhuang, 1 Nov (XINHUA)--Hebei Province has completed the task of autumn wheat sowing. The total area sown to autumn wheat reached over 35.5 million mu, an increase of 2 million mu over 1981. Prior to starting the wheat sowing task, the province, one of the major wheat-producing areas in China, took various measures to popularize scientific knowledge about wheat sowing among the peasants and conducted training classes for some 1.4 million cadres, peasant technicians and commune members. The total amount of phosphate fertilizer applied in the province this year increased by 100,000 dun over last year, and the amount of cake fertilizer applied increased by 70 million jin over last year. [Beijing XINHUA Domestic Service in Chinese 0025 GMT 1 Nov 82 OW]

RURAL WEEKLY--Shijuazhuang, 13 Nov (XINHUA)--A rural weekly known as NONGJIA LE [PEASANT'S JOY] has been jointly published by HEBEI RIBAO and the Hebei Provincial Supply and Marketing Cooperative. It disseminates agricultural and sideline occupational knowledge as well as market information. Over 90 percent of its subscribers are peasants in the province and more than 170,000 copies were sold in 8 months ending October 1982. It was first published last February. [OW040201 Beijing XINHUA Domestic Service in Chinese 0052 GMT 13 Nov 82 OW]

CSO: 4007/67

HEILONGJIANG CALLS FOR CORRECTING SOIL EROSION

SK181219 Harbin HEILONGJIANG RIBAO in Chinese 28 Oct 82 p 2

[Article by Liu Jincheng [0491 6930 2052] of the provincial water conservation bureau and Kiu Yunhe [0491 6663 3109] of the provincial water and soil conservation office, entitled: "Some Noteworthy Problems in Current Water and Soil Conservation Work" from the column "Work Study"]

[Excerpts] Comrade Hu Yaobang pointed out in his report to the 12th CPC Congress that from now on, while firmly controlling population growth, protecting all agricultural resources and maintaining the ecological balance, we must do better in agricultural capital construction, improve the conditions for agricultural production and practice scientific farming. Following this guideline, we should do a lot of work to improve the conditions for agricultural production in the future.

In our province soil erosion areas total 75 million mu, of which 60 million mu are arable land, and 30 million mu are seriously eroded. Soil erosion areas include some 58 towns and counties. Serious losses of water, soil and fertility resulting from water and wind erosion in these areas have made the layer of black earth become thinner and thinner, deteriorated soil structure and reduced the water storage capacity of soil, thus worsening the damage caused by drought and waterlogging. Therefore, we must accelerate our efforts to stop soil erosion. At present, we should carry out the following tasks for water and soil conservation:

1. We should enhance our sense of urgency and responsibility in carrying out water and soil conservation work.

2. We should take the rivulet basin as a unit to tackle problems in a comprehensive way. A rivulet basin which is composed of slopes, ditches and streams is a complete natural water assembly area in which the entire course of soil erosion can be witnessed. In order to effectively control soil erosion, we should implement the principle of simultaneously improving slopes and ditches, combine biological with engineering measures, plant trees and grass and close hillsides to facilitate afforestation at the same time, give play to the function of both farmland improvement projects and farming methods and urge the masses to protect land. With this done, we will be able to prevent mud and

sand from being washed away from ditches in a short period of time, utilize water to the utmost and basically control soil erosion. When soil erosion in revulet basins is successfully tackled, soil erosion in larger areas will be alleviated correspondingly.

3. We should closely combine water and soil conservation with the development of diversified production.

4. We should properly handle the relationship between reclamation of wasteland and water and soil conservation. Over the past few years, some localities have reclaimed wastelands to the detriment of trees and grass and have reclaimed sandy areas, steep slopes and areas near farmlands. This has damaged large areas of vegetation and activated soil erosion. In Mudanjiang Prefecture, more than one-third of the natural secondary forests with a slope of 10 to 30 degrees on the outskirts of towns along railways have been damaged. Dense forests have been turned into barren lands covered all over with wounds. In order to prevent such a situation, we should strictly forbid reclamation of land to the detriment of forests. We should turn the farmlands on slopes of more than 15 degrees into forests again. If such farmlands cannot be turned into forests because the population is great and farmlands are limited, we should build water and soil conservation projects to prevent erosion.

5. We should implement economic responsibility systems. In areas where soil erosion is serious, there are comparatively more poor communes and brigades whose economy is rather weak. If we are to tackle erosion more quickly, we should adopt various economic responsibility systems to assign every work group and individual the responsibilities to manage land and keep it in good maintenance and arouse their enthusiasm for protecting water and soil conservation projects.

CSO: 4007/67

AGRICULTURAL ECONOMIC STATISTICAL WORK REPORTED

SK250910 Harbin HEILONGJIANG RIBAO in Chinese 1 Nov 82 p 2

[Article by Zhao Zongde [6392 1350 1795] of the provincial agricultural bureau entitled: "We Must Attach Importance to Agricultural Economic Statistics Work" from the column "Work Study"]

[Excerpts] The implementation of all forms of production responsibility systems in the rural communes and brigades has promoted the development of the collective agricultural economy. At the same time, owing to the increase in the forms of contract, reward and punishment systems, some contract households have understated their output and income figures to the production teams, bringing difficulties to the correct compilation of agricultural economic statistical data. Calculated in accordance with investigations into exemplary cases in various localities, in 1981, rural basic accounting units throughout the province failed to report to the production teams an income totalling 12 million yuan, 2.8 percent of the total annual income. Each person failed to report nearly 7 yuan in income on the average.

The creation of the above problems, on the one hand, is because of the short period of time, the lack of experience and our failure to keep pace in time with the changes in the forms of management to formulate a set of accounting and statistical systems that suit the new situation. On the other hand, some comrades lack a sufficient understanding of the importance of the strict statistical work.

Economic statistics are at all times the important links of economic work. Take the statistics of income distribution of rural communes and brigades, for instance. First of all, they are a component of the statistical data of the whole national economy. The accuracy of the statistical data will directly affect the correctness and reliability of the national economic statistical data. Second, only complete income distribution data can correctly reflect the labor achievements of the collectives and the commune members, thus further arousing the production enthusiasm and labor zeal of the cadres and the masses. Third, economic statistical data are a foundation for implementing economic accounting. Only by collecting accurate economic data from all quarters can we analyze and create conditions for correctly carrying out economic activities and can we provide scientific data for selecting the best economic result.

At present, to do a good job in the agricultural economic statistical work, we must grasp several crucial links.

1. Leaders at all levels must not only ideologically attach importance to statistical work, but must also consider it as an important matter in economic work. They must make good arrangements, conduct good surveys and arouse the attention of the low-level organs and pertinent business departments to work in coordination and to realistically grasp the work well.

2. In view of the fact that the crux of the incorrect data lies in the income and expenditures of the contract household portions, which are not in the account and that the reason for the incorrect data is mostly because of the contract workers' insufficient understanding of the party's policies, therefore, we must consider the statistical work of the contract household portions as the main point in solving the problem of failing to report real incomes and expenditures and must do a good job in publicizing policies.

3. We must rely on the pertinent business departments to make necessary supplementary forms for reporting statistics.

4. We must strengthen professional training for accountants and statisticians of communes and brigades so as to raise their professional skills to a new level. In addition, we must institute a personal responsibility system in statistical work, define work tasks and quality requirements so as to enhance the professional workers' dedication and their sense of responsibility in striving to raise the quality of statistical work.

CSO: 4007/67

PRESS COMMENTS ON FISH FARMING

SK070409 Harbin HEILONGJIANG RIBAO in Chinese 15 Nov 82 p 1

[Text] Our province is rich in aquatic resources. The water areas suitable for fish farming ranks the province fifth in the country. However, only 40 percent of the total water areas have been exploited and most of them are left unused. It is a pity that such abundant resources lie idle.

There are many reasons for the low utilization rate of water area. One of them is that in the past we paid much attention to unified management to the neglect of individual and decentralized management. To solve this problem, first of all, we must change the guiding ideology of relying solely on centralized management of the state and collective to one that calls for simultaneous participation of the state, collective and individual.

Our province is in the initial stage of developing fish farming by individuals. Therefore, leaders at all levels should emancipate their minds and soften the policy to rationally delimit fishing areas and to adopt diverse forms of management. Special attention should be paid to mobilizing the initiative of tens of thousands of households and to enthusiastically encouraging and supporting them.

We should firmly attend to delimiting the odd pieces of fishing areas or fishing areas not suitable for collective management among commune members. Some localities would rather leave unused small puddles and small low-lying ponds that are not fit for collectives to exploit, than assign them to commune members. However, some localities have assigned fishing areas to commune members, and once those commune members earn a large income from raising fish, the fishing areas assigned to them are taken back. It is wrong to act like that.

The resolution made by the provincial government on the development of fishery clearly defines: state, collective and individual ownership of water areas are protected by law.

Both parties may sign contracts through negotiation with regard to what assistance the collective should render to the individual household engaged in fish farming and what the obligations of the latter are.

In short, efforts should be made to fulfill our goals--fishes are raised wherever there is water, whoever is suitable for fish farming can be engaged in it and the more fishes raised, the better.

CSO: 4007/67

BRIEFS

BIN COUNTY VISITED--Prior to the arrival of the severe cold winter, leading comrades of the provincial CPC committees and government visited the mountainous areas. On 8-10 November, Yang Yichen, first secretary of the provincial CPC committee; Chen Junsheng, secretary of the provincial CPC committee; Wei Zhimin, deputy governor, and (Yang Yusheng), Standing Committee member of the provincial CPC committee and chairman of the provincial government agricultural office, visited communes, brigades and commune members in Bin County that had been heavily stricken by natural disasters. The visitors asked about their situations in production, livelihood and reconstruction through self-reliance, listened to their questions and opinions and encouraged them to boost their morale, to rely mainly on the collective and their own efforts and to adopt appropriate and reliable methods to boost the production of collectives and the household sideline occupations of commune members. [Excerpt] [SK120756 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 11 Nov 82]

SAVINGS DEPOSITS--By the end of October, savings deposits of the urban population in Heilongjiang Province totaled 2.19 billion yuan, an increase of 441 million yuan over the end of 1981 and overfulfilling the annual savings deposits plan. [Harbin HEILONGJIANG RIBAO in Chinese 10 Nov 82 p 1 SK]

HEIHE PREFECTURE AGRICULTURE--In Heilongjiang, Heihe Prefecture plans to increase its agricultural output value by 7 percent annually so as to increase its agricultural output value from 380 million yuan in 1980 to 1.56 billion yuan by the end of this century. The prefecture's favorable conditions for the increase are its 6.5 million mu of cultivated land, averaging 9.5 mu per capita; its 1.8 million mu of wasteland suitable for reclamation; its 75 million cubic meters of timber reserves; its 10 million mu of barren hills and land suitable for afforestation; its 9 million mu of good grasslands, of which only 20 percent are utilized; its 1.2 million mu of usable water areas, of which less than 2 percent is used currently; and its 570,000 watts of hydropower potential. In addition, it has 4,975 large and medium-sized tractors, 1,991 combine harvesters and 21,000 motor-driven farm tools. Its farm mechanization rate has increased to 80 percent. The prefecture plans to gradually increase its output value of forestry, animal husbandry, sideline products and fishery from the present 18 percent to 58 percent in the total agricultural output value. It also plans to increase its cash crop areas from 4 percent in the total sowing areas to more than 10 percent. [Harbin HEILONGJIANG RIBAO in Chinese 18 Oct 82 p 2 SK]

CONTRACT SYSTEM--Shuangcheng County Food Company has instituted an economic contract system in dealing with poultry, thus boosting workers' enthusiasm and scoring remarkable achievements. The company has purchased 185,000 chickens, ducks and geese so far and earned a profit of 151,000 yuan, 14 percent more than in the same period last year. This year the company changes the method of eating from the same big pot of rice in carrying out the poultry business and instituted the economic contract system in a comprehensive way. The company assigned fixed profit quotas to its food stations. When the quotas are fulfilled, the stations share 70 percent of their above-quota profits and the company shares the remaining 30 percent. The more they earn, the more they share. When the stations fail to fulfill their quotas, they are subjected to a fine equal to 30 percent (?of their assigned quotas). Such a system has fired the workers with great enthusiasm. [Excerpt] [SK150854 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 14 Nov 82]

DAIRY PRODUCTION INCREASED--Harbin, 27 Nov (XINHUA)--Heilongjiang Province, one of China's major dairy producers, turned out a record 22,000 tons of dairy products by 15 November, fulfilling its annual quota 1 1/2 months ahead of schedule. Last year the province produced 18,000 tons. The provincial light industry bureau predicted that an additional 3,000 tons of dairy products will be produced before the end of the year. Heilongjiang's 62 dairies, capable of processing 1,000 tons of milk daily, produce one-fourth of the nation's total dairy products including milk powder, condensed milk, cheese and butter. The province has 120,000 head of milch cows, of which 47,000 are kept by peasant households. The bureau said 20 dairies have been expanded this year to process 400 tons more milk daily. The new Anda milk plant, which has complete sets of equipment imported from Denmark, will process 200 tons of milk daily upon completion in 1984. Heilongjiang's dairies now provide a variety of milk powder products, including chocolate milk powder and milk powder specially for infants and pregnant women. This year, they produced 1,000 tons of milk-bean powder, a new mixture of milk and soybean powder and sugar. [Text] [Beijing XINHUA in English 0735 GMT 27 Nov 82 OW]

BEET SUGAR INCREASE--Harbin, 26 Nov (XINHUA)--China's leading beet sugar growing province of Heilongjiang expects to produce 400,000 tons of beet sugar in this refining season, 10 percent above last [year], the provincial light industry bureau announced. Heilongjiang, which accounts for about one-half the country's beet sugar output, purchased more than 1.63 million tons of sugarbeets by 10 November. The province expects to harvest 3.3 million tons of sugarbeets this year despite drought and insect attacks. This year, Heilongjiang planted 10,000 hectares more to sugarbeets than in 1981. The 24 refineries started operation in early October. Statistics from these plants show sugar content is 1.5 percent higher this year than last. The province reaped a record harvest of 3.36 million tons of sugarbeets and produced 365,000 tons of sugar in 1981, the bureau said. [Beijing XINHUA in English 0715 GMT 26 Nov 82 OW]

SUGAR PRODUCTION--By 27 November Heilongjiang Province had produced 100,000 tons of sugar. Since 1 October, 24 sugar refineries in the province have gone into operation to process sugarbeets. As of 27 November the province had processed 800,000 tons of sugarbeets. According to a calculation by the provincial sugar company, the province's output of sugar extracted from sugarbeets will surpass 390,000 tons, topping the previous record. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 2 Dec 82 SK]

GRAIN PROCUREMENT--Nenjiang and Suihua Prefectures, Heilongjiang Province, have overfulfilled the state grain procurement targets. As of 10 November, Nenjiang Prefecture overfulfilled the 620 million jin grain procurement target by 30 million jin. As of 13 November, Shuihua Prefecture procured 370 million jin of grain. [SK180322 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 16 Nov 82 SK]

CSO: 4007/67

MEETING ON INDISCRIMINATE TREE FELLING REPORTED

HK300643 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 28 Nov 82

[Text] The provincial government held a telephone conference last night with the participation of leading cadres of various prefectures, cities and counties, which called for deepening understanding, strengthening leadership and properly implementing the central instructions on curbing indiscriminate tree-felling and strictly hitting at the criminal activities of indiscriminately felling trees.

In his remarks at the conference, provincial CPC committee secretary and governor, Dai Suli pointed out: Having issued the urgent instructions, the CPC Central Committee and State Council immediately assigned a work team led by Yang Jie, member of the central commission for discipline inspection, to help investigate and handle cases of indiscriminate tree felling in the province. Most of the prefectures, cities and counties have attached importance to the implementation of these instructions. Leading cadres are personally in charge of planning and handling forest destruction cases. The provincial commission for discipline inspection, public security organs, procuratorial organs and people's courts at all levels, forestry, industrial and commercial departments have taken quick action and assigned work teams to handle tree felling cases in places seriously affected. Through investigating and finding evidence, Nanyang and Xinyang prefectures have arrested a number of tree felling criminals. The evil trends of indiscriminate tree felling have suffered a heavy blow from the closing down of timber free markets, setting up more timber inspection stations, and strengthening forestry management at various localities. However, party and government leading cadres in some counties have failed to earnestly and effectively implement the instructions of the Central CPC Committee and State Council. As a result, such cases as illegally and indiscriminately felling trees, and plundering forests are still developing.

Dai Suli pointed out: The urgent instructions of the CPC Central Committee and State Council are a matter of great importance closely related to the long-term interests of the state and people; they are not only related to the forestry departments but also are of great importance for the leading cadres of party and government organs as well as to the public security organs, procuratorial organs and people's courts. They must be conscientiously and rapidly implemented; they must be handled with meticulous care; they must not be overtly agreed with but covertly opposed; the law must be observed and the trends of mishandling cases should be resolutely changed. In conclusion, Dai Suli put forward the following four points:

1. The CPC committees at all levels throughout the province should restudy and understand the spirit of the central instructions, and take it as an important task governing rural work for this winter and next spring and grasp it firmly; the erroneous view of regarding indiscriminate tree felling as justified must be criticized; all localities should make use of various publicity media to constantly spread propaganda on the central instructions among cadres and masses and make them known to every household. Provincial, prefectural and county leading cadres should be in charge and assign groups formed by commissions for discipline inspection, public security organs, procuratorial organs, people's courts, forestry, industrial and commercial departments to the spots where forests have been seriously damaged, to grasp a number of model cases and handle them seriously, rapidly, vigorously and publicly. Party members who have taken the lead in such activities should be expelled from the party; cadres who have taken the lead should be dismissed and then arrested in order to give warning to the criminals and educate the cadres and masses. In future, the evil trend of indiscriminately felling trees must be curbed rapidly and resolutely.

2. Indiscriminate tree felling cases should be thoroughly investigated, taking counties and municipalities as the unit. A unit or individual who has damaged trees in the past 1 or 2 years should be individually handled in accordance with the specific instance. All compensation must be repaid; all who deserve it must be fined and all who should be convicted must be convicted in accordance with the laws. Tree-felling criminal cases occurring after the issuance of the central instructions should be seriously handled. In cases where people refuse to act on orders or fail to properly handle the cases, the responsibility of the county CPC committee secretary or county magistrate must be investigated; and I think, the prefectural CPC committee secretary and special commissioner should also be investigated, and that the provincial authorities should also be held responsible.

3. Strictly implement the system of tree felling authoritization, transport and management. Tree felling, timber transport and marketing are not allowed without the written authorization of the forestry departments. Timber free markets in forest areas or near forest areas must be resolutely closed. Timber processing factories should be straightened out. Government in all localities should assist timber inspection and management departments in their work.

4. Do a good job in the three fixes in forestry and in winter-spring tree planting. All localities should proceed with their work in a planned way in the light of curbing damage to trees, the three fixes in forestry and winter-spring tree planting. Tree felling in forest lands where the three fixes have not been completed should be temporarily suspended. Hills that are to be assigned to commune members should be barren hills, and forest tracts should not be distributed to individuals. Tree belts on farmland and the interplanted trees on farmland should be managed in a unified way if that can be done, and the trees that have been assigned with the land should be strictly managed and the unauthorized tree felling should be banned. In future, the building of tree belts on farmland should be completed under unified plans.

CSO: 4007/67

LIU JIE ADDRESSES MEETING ON FORESTRY

HK030905 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 1 Nov 82

[Summary] Recently the Henan Government held a provincial meeting on forestry. Liu Jie, first secretary of the provincial CPC committee, attended the meeting and delivered a speech.

"Developing forestry is a great strategic measure that is of vital and lasting importance. It is imperative to grasp this work well. Henan is rich in the resources of tree varieties and has good natural conditions. There are 55 million mu of land suitable for planting trees and 16 million mu of waste land that need to be forested. Henan has great potential for developing forestry. We have 30 years' positive and negative experiences, a backbone rank in forestry and a number of advanced models. Provided that we work hard, it is entirely possible to cover up 30 percent of the land with trees, quadruple the storage of timber and increase to a large extent the total output value of forestry by the end of this century."

In the past, forestry was influenced by the erroneous ideas of the "leftist" deviation. Implementing the three-fixes system, that is fixing the leadership, personnel and task has great significance in promoting unity and stability, protecting the forests and eliminating the erroneous influence of the "leftist" deviation.

"The meeting stressed that while implementing the three-fixes system, it is necessary to organize the forestation of this winter and next spring, draw plans for the forestry areas, make preparation for saplings and rationally arrange the variety of trees. The forestation tasks should be gradually fulfilled down to every unit and peasant family. After the wheat planting and before early January 1983, we must organize three upsurges in planting trees. It is necessary to accomplish the task and guarantee both quality and quantity. We must also grasp the collection and storage of seeds and the transplanting of saplings during winter to solve the problem of shortage of saplings in afforestation."

"The meeting demanded that various localities firmly carry out the emergency instruction of the party Central Committee and the State Council on checking the indiscriminate lumbering and cutting of forest trees and regard this as an important task. Special forces must be organized to conduct an overall examination of the work of protecting forests. Those who seize state or collective property must be thoroughly investigated and punished according to law. Those units and individuals who damage forests must be seriously handled according to the gravity of the case. The unhealthy tendency of indiscriminate cutting and lumbering should be seriously handled and resolutely checked."

Directors and responsible comrades of forestry departments of the prefecture levels and representatives of the concerned units of the provincial level totalling 350 people attended the meeting. At the end of the meeting, Vice Governor Yan Jining made a summary to the meeting.

CSO: 4007/67

COMMENTARY ON RATIONAL USE OF LAND

HK010723 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 30 Nov 82

[Station commentary: "We Must Make Rational Use of Land"]

[Excerpts] In the past few years, given the development of the socialist construction cause, an increase in population and a reduction in the land available, there have appeared many contradictions with regard to the use of land for construction interfering with national economic construction. This problem should arouse the close attention of the leadership at various levels and must be seriously solved. Ours is a socialist country. Its land belongs to the state and the collective. No unit or individual has the right to occupy, or buy and sell the land.

To meet the needs of socialist construction, the state can requisition land in accordance with legal provisions. Therefore, the departments requiring land for construction and the cadres and masses of communes and brigades affected in the requisition of land must correctly handle the relationship between the state, the collective and the individual and make rational use of land in line with the needs of national construction. Our country has a large populating but little land. The average cultivable area per capita is lower than the world level. That in our province is also lower than the national level.

All construction units that occupy cultivable land must resolutely carry out the state regulations governing the requisition of land. In line with the principle calling for economic and rational use of land, they must make rational use of land and raise its utilization rate. We must resolutely overcome the chaotic situation in which units defying state policies and degrees freely occupy land without authorization, occupy more land than is authorized, requisition more land than is required, requisition land not for use, or precede with the occupation of land together with the act of making a requisition. Making proper arrangements for the peasants of communes and brigades affected by the requisition of land with regard to their lives and production, is also a problem that must be properly solved. After requisitioning a piece of land, we must provide rational economic compensation in line with the specified regulations and properly settle the displaced persons concerned. It must be pointed out that in the past few years, some communes and brigades have extorted irrational compensation for land to be requisitioned for national construction, freely making extra demands. Where their demands have not been satisfied, they have refused to hand over the piece of land to be requisitioned. In defiance of law and discipline, some have purposely dug ditches and destroyed roads interfering with the normal progress of national construction. This can never be allowed. Governments and land control departments at all levels must strengthen leadership and resolutely uphold the regulations governing the requisition of land for national construction. We must conduct education among the units requisitioning land. Thus, they know that they must pay attention to conserving every inch of land and raising its utility rate. We must also pay attention to the idea of jointly contributing to the construction effort, respond to the state's needs and actively support the state in requisitioning land. In a word, everyone must pay attention to the concept of the whole situation, in order to insure the smooth progress of modernization.

CSO: 4007/67

HENAN

DISCUSSION ON PROPER USE OF LAND

HK010733 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 30 Nov 82

[Text] From 18 to 25 November in Zhengzhou, the provincial construction committee held a forum on Henan Province's regulations governing the requisition of land for national construction. Participating at the meeting were directors of the construction committees of various prefectures and municipalities and some counties, and responsible comrades of the relevant departments and bureau directly under the province. The Standing Committee of the provincial people's congress and the provincial government also sent people to attend the meeting. Yue Xiaoxia, vice governor or Henan, attended and addressed the meeting.

The comrades attending the meeting seriously studied the regulations governing the requisition of land for national construction promulgated by the State Council, and examined and analyzed the following problems existing in our province's use of land for construction in the past few years:

1. Some leading comrades do not have an adequate understanding of the national policy on the protection of farmland and take no notice of state policies and decrees, freely encroaching upon and occupying land.

2. No satisfactory arrangements are made for the masses of communes and brigades affected by the requisition of land in regard to their lives and production, causing bad blood between the units requisitioning land and the local people affected.

3. Prompted by partial and individual interests, the cadres and peasants of some areas bargain hard with the units requisitioning land, wasting time and hampering the normal progress of necessary construction projects.

4. Organs in charge of land leave something to be desired. There are not enough personnel specialized in management. Relevant work fails to catch up, so that many problems are not promptly taken care of.

On the basis of studying the regulations governing the requisition of land for national construction promulgated by the State Council and analyzing the actual conditions of our province, the meeting discussed a draft concerning Henan Province's regulations governing the requisition of land for national construction.

Guided by the principle of treasuring every inch of land and guaranteeing national construction projects, the draft put forth a series of rules and regulations to be followed in implementing the State Council's regulations. From the legal point of view, effective measures were formulated concerning the chaotic state witnessed in the use of land for construction. The draft will be submitted at the Standing Committee of the provincial people's congress. After being examined, it will be promulgated by the provincial people's government for implementation.

The meeting called on land control departments at all levels, various units requisitioning land for construction and the masses of communes and brigades throughout the province to take the whole situation and all interests into consideration, foster the spirit of making a joint contribution toward construction, and fight for the realization of the four objectives of struggle put forth at the 12th CPC National Congress.

CSO: 4007/67

HENAN

URBAN RESIDENTS RETURN TO RURAL AREA

HK021100 Beijing RENMIN RIBAO in Chinese 30 Nov 82 p 1

[Report by reporter Xin Qing [1800 1730] and correspondents Ying Jun [5391 0193] and Tong Liang [0681 5328]: "Great Changes in the Rural Areas Since the Implementation of the System of Assigning Land to Each Household in Exchange for Fixed Levies--Townspeople of 170 Households in Shenqiu County Ask To Return to Rural Areas"]

[Text] Exciting news comes from Shenqiu County in eastern Henan, which has experienced a drastic change in the last 3 years: townspeople of 170 households which were transferred to rural areas and which had tried every means to petition to return to the urban area, are now vying with one another to return to the rural areas.

In the past, since there was a tremendous gap between the urban and the rural areas in Shenqiu County, which used to suffer from natural disasters, urban residents always refused to move to rural areas. Three hundred and five urban households which were transferred to the countryside during the 10 years of turmoil, saved their money to organize petitions, strongly demanding to return to urban areas. Since the system of assigning land to each household in exchange for fixed levies was implemented, the grain output per unit area of the production brigades to which they belong has increased from more than [figure indistinct] jin per mu to more than 800 jin per mu, while the income per capita has increased to 185 yuan and the grain distribution per capita to more than 500 jin. In addition, rural households can enjoy large houses. Therefore, 170 households which have already completed application for returning to urban areas are now asking to return to rural areas.

CSO: 4007/67

CPC REPORT ON COUNTY PEASANTS' JOYS, WORRIES

HK121516 Zhengzhou Henan Provinoial Service in Mandarin 1100 GMT 10 Nov 82

[Excerpts of report, "The Joys and Worries of Peasants," by (Du Guanzhang), member of the policy study office of the Henan Provincial CPC Committee, on rural areas in Hua County]

[Excerpts] The report says: In September and October, I returned to my hometown, rural Hua County, and stayed there for some time. I was deeply impressed by some circumstances. Now peasants' enthusiasm for production has been really aroused. I have never before seen the peasants in my home town so happy as they are now. I have also never before seen their enthusiasm for farming so great as it is now. In the past, Hua County was a poor place. During the 10 years of internal disorder, it was exceptionally seriously sabotaged by the left. In the production team where my home is situated, the annual per capita wheat ration had seldom reached 100 jin for many years in the past. In 1981 when the system of assuming full responsibility for fixed output quotas was implemented, the per capita wheat ration in that year as some 400 jin. The per capita wheat ration this year has increased to some 500 jin. Due to the autumn hailstones disaster this year, we basically had a bad harvest of cotton and sesame and could only reap 40-50 percent of such crops as corn and beans. Even so, grain output was more than in previous years. I went to visit my neighbors door-by-door and all of them, male and female, old and young, greeted me with a smiling face.

However, peasants also have their worries. The main worry is that they cannot sell the agricultural products which they want to sell and they cannot buy the industrial products which they want to buy. Peasants have a lot of complaints about the fact that the supply of the means of production and the means for their livelihood cannot be guaranteed. They have to pay high prices for many things. The masses of commune members have also disclosed that paying high prices for things is a minor matter and what worries people most is that they are fooled and deceived and that they cannot rest assumed when they buy things. Diesel oil, seeds and fertilizers are sometimes not genuine ones. Peasants say that they do not mind spending more money and that when they buy spurious diesel oil, which will damage machines, and when they buy false seeds and chemical fertilizers, which will affect a season's production, they cannot afford these losses. There are many loopholes in the service for peasants' livelihood. For example, places where peasants have noodles are a big problem. Now peasants have put forward many views on the management of the market and commodity prices. They urgently hope to have a rural purchase and sales system which can uphold peasants' proper interests, provide good service and do business justly and are trusted by the masses. It is necessary to do well in the service work for agricultural production and peasants' livelihood and to prohibit improper businesses so as to rid peasants of their worries and make them engage wholeheartedly in production.

CSO: 4007/67

BRIEFS

GRAIN PROCUREMENT--Henan had overfulfilled its autumn grain procurement quota by 24.73 million jin by 25 November, despite the fact that the harvest was affected by natural disasters. The crops procured include 195.31 million jin of soybeans and 14.35 million of sorghum. [HK060759 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 4 Dec 82 HK]

COMMUNE MEMBERS' SAVINGS--Since the 3d Plenary Session of the 11th CPC Central Committee, the amount of savings of rural commune members in Henan Province has greatly increased. By the end of October, the amount of savings of commune members throughout the province which were deposited with credit cooperatives had amounted to 1.274 billion yuan, which was 310 percent more than in the corresponding period in 1977 when the amount of savings was only 310 million yuan. The average per-capita savings of commune members in Lin and Meng counties were 97 yuan and the average savings of each household were 466 yuan, the highest of all counties and municipalities throughout the province. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 13 Nov 82 HK]

AGRICULTURAL SITUATION--Zhengzhou, 28 Oct (XINHUA)--In 1981, Henan Province's total agricultural output value (based on 1970 prices) reached 12.13 billion yuan, topping 1978 by 22.8 percent. The 1981 per capita net income of the province's rural peasants was 115.6 yuan, more than double the 1978 figure; the figure for the first half of this year was 105.5 yuan, 40.7 percent more than the same period last year. In 1981, the province's total grain output reached 43.6 billion jin, 10.4 percent more than 1978. This year's total production of summer grain and rapeseed reached 22.7 billion jin and 5.22 million dan respectively. Compared with 1978, the province's 1981 output of cotton, tobacco and rapeseed rose by 58.4, 29.8 and 130 percent respectively. By the end of 1981 the province had a record high of 6.071 million draught animals in stock, 17.9 percent more than 1978. In 1981, the province procured 6.34 billion jin of grain, 32 percent more than 1978. This year it procured 4.26 million jin of summer grain. [OW100259 Beijing XINHUA Domestic Service in Chinese 1239 GMT 28 Oct 82 OW]

AUTUMN GRAIN PROCUREMENT--By 15 November, Henan Province had procured and stored in granaries 1.20736 billion jin of autumn grain, which is 83.7 percent of the province's quota for autumn grain procurement and storage. Nanyang and Xinyang Prefectures have stored 359.69 million jin of autumn grain. [HK221316 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 21 Nov 82 HK]

CSO: 4007/67

STOPPING EXTORTION AGAINST SPECIALIZED HOUSEHOLDS URGED

HK290734 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 28 Nov 82

["Broadcast Talk" by Hubei Radio editor: "Stop Extortion Against Specialized Households"]

[Text] Recently a series of cases in which specialized peasant households were extorted occurred in a few places of our province. For example, there is a peasant called (Li Lincheng) in Zaolin County who engages in some specialized undertakings and has gained comparatively high income. Some cadres there concocted various pretexts and took various opportunities to force him to contribute money. They said to him: The 12th Party Congress is to be held, what are you ready to do to show your feelings? The national day will come, how will you celebrate it? In this way, they openly extorted money from him. In some other places, specialized peasant households were required to give generous and selfless assistance to other peasants who wanted to buy bicycles and sewing machines. These events embarrassed and vexed specialized peasants.

Specialized and key peasant households represent a new situation emerging after the implementation of the agricultural production responsibility system in the rural areas. They have changed the previous semi-[word indistinct] production into the present commodity production and changed the previous extensive cultivation into the present intensive and meticulous farming. They are also keen on adopting advanced technology in their agricultural production and developing diversification. As a result, their productivity has greatly improved and their incomes have increased and are higher than the average as compared with other ordinary peasants. They have become rich sooner than others. Their incomes, which are gained through hard work, should be protected by society. If anyone randomly apportions levies or duties on them, he is violating their lawful interests and the socialist principle of distribution according to work.

Why did the cases of extorting specialized households occur in some places? The radical reason is that the influence of leftist ideology is still making trouble. Some people who have been seriously influenced by the leftist ideology are accustomed to eating from the same big pot and practicing egalitarianism. When seeing that specialized households have become rich through labor, they cannot help but rack their brains trying to receive some privileges from the specialized households. Therefore, the fundamental way to overcome these evil things is to further eliminate the influence of leftist ideology. We should cast aside the notion of "poverty leading to revolution and wealth leading to revisionism"; rather, we should take the view that becoming rich through labor is glorious. We should sincerely support specialized households to become rich through labor. At the same time, it is necessary to educate commune members to learn from specialized members and their advanced experienced in developing production and to take the road of becoming rich in a health way. Only in this way can the rural areas as a whole gradually become prosperous under the guidance of the party's correct policies.

CSO: 4007/67

BRIEFS

PEASANTS' INCOME INCREASES--The Hubei Provincial Statistical Bureau has conducted investigation of the economy of 948 peasant households in 30 counties. The investigation reveals that the average per capita net income of peasants in the province this year amounts to 260.2 yuan, 42.7 yuan more than last year. This is the highest record since the founding of the country. The increase in peasants' income is the result of the stability and constant perfection of the agricultural production responsibility system and the vigorous development of household sideline production. It is estimated that the average per capita income from household sideline production in the rural areas in the province this year may amount to 113.6 yuan. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 7 Nov 82 HK]

GRAIN STORAGE--Hubei reaped a bumper grain harvest this year, and the progress of grain storage is unprecedented. By 20 November, more than 6 billion jin had been stored, a record to date. By now 3.2 billion more jin of grain have been procured than at the same time last year. Departments concerned expect the province's grain output this year to increase by 3.8 billion jin--11.3 percent--over last year and to show an increase of 1 billion jin over the previous record year. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 26 Nov 82 HK]

YEAR-END DISTRIBUTION--After conducting experiments at selected units, Hubei Province has started year-end distribution in rural areas. Since October, the province has sent some 15,000 cadres, 242 of whom are principal prefectural and county responsible comrades, to rural areas to set up some 3,000 experimental units in distribution. The experiences of these experimental units have shown that resolutely fulfilling contracts is the central work of doing well in year-end distribution this year. [HK071326 Wuhan Hebei Provincial Service in Mandarin 1100 GMT 1 Dec 82 HK]

LATE RICE--Hubei has reaped a bumper harvest of double-crop late rice. The 12 million mu of the crop have yielded over 5.7 billion jin, an increase of 900 million jin over last year. Average yield was 470 jin per mu, 32 jin higher than the previous high in 1979 and 66 jin higher than last year. The yield exceeded 500 jin in Hanyang, Honghu, Mianyang, Xishui, Huanggang, Huangmei, Xiaogan, Huangji, Yunmeng and Hanchuan counties. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 19 Nov 82 HK]

ANIMAL HUSBANDRY--The 6-day-long provincial animal husbandry work conference concluded yesterday in Wuchang. The conference reviewed the experiences of animal husbandry production in recent years and commended a group of progressive collectives and individuals on this front. The conference decided on the following main tasks in animal husbandry for our province next year: taking the improvement of economic results as the focus, while continuing to speedily develop the pig-raising industry and striving for an all-round increase in all kinds of domestic animals and fowl; making efforts to fulfill or overfulfill the state plans of purchasing animal products; further improving the supply of meat, milk and eggs to large and medium-sized cities. Meeting participants felt that to achieve the above objectives, it is necessary to implement all relevant policies, energetically encourage peasants to raise domestic animals and poultry on an individual base and energetically develop more specialized households engaged in this trade, with a projected number of households reaching 200,000 in 1983. The conference also studied plans, measures and policies for achieving the goal of quadrupling animal husbandry production in our province by the end of this century. [HK290804 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 28 Nov 82]

CSO: 4007/67

COMMUNES, BRIGADES CORRECT FINANCES

HK021052 Changsha Hunan Provincial Service in Mandarin 1100 GMT 1 Dec 82

[Text] In the course of perfecting the agricultural production responsibility system, communes and brigades in rural areas of Hunan Province have been universally straightening out their finances. According to the statistics compiled by relevant departments, by the end of October 27 percent of the production teams throughout the province had completed straightening out their finances, 18 percent of the production teams were in the process of straightening out their finances and a large number of production teams had planned to unfold this work in the coming winter and spring.

For many years in the past, communes and brigades in our province had not straightened out their finances in a true and systematic manner. Some communes and brigades had more problems. While straightening out finances and in the light of the new situation following the implementation of the system of peasant households assuming full responsibility for task completion, many communes and brigades concentrated their forces and seized on the key point in order to lay stress on the solution of three problems:

1. They did well in checking on, managing and using collective property and gave full play to the role of collective property. What collectives need, such as large machinery, water conservation facilities and antidrought machinery and tools, must be owned by collectives and managed by special persons. They established the system for management, repairs and use. Properties which collectives did not need at the moment, were generally sold to households at the market price. The money from sales was regarded as accumulation funds.

2. They cleared up creditors' rights and debts. They settled all accounts before implementing the system of peasant households assuming full responsibility for task completion and established new economic relations after implementing the system. They laid stress on settling all accounts between commune members, recovering money which cadres had misappropriated or overdrawn and returning to collectives property which had been seized. Items were settled one by one and made public by each household. On the basis of settlement, the method of handling these cases was formulated and the time of repayment was specified.

3. On the basis of settlement, the new accounts and the new management system were established to suit the needs of the system of peasant households assuming full responsibility for task completion. Some communes and brigades implemented the professional accounting system on a trial basis.

CSO: 4007/67

BRIEFS

GRAIN PRODUCTION--Hunan has reaped an all-round bumper harvest this year. Changde, Taoyuan, Ningxiang, Changsha, Wangcheng, Liuyang, Liling, Xiangxiang, Xiangtan, Hengnan and Qidong counties and Yueyang Municipality have each increased output by over 100 million jin compared with last year. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 27 Nov 82 HK]

TEA, RAMIE HARVESTS--Hunan has once again reaped a rich harvest of tea leaves. Figures show that by the end of October the province had purchased 1,130,000 dan, an increase of more than 260,000 dan over the same period last year. This year in the 26 major tea producing counties of the province, improvement has been made in procurement quantity, varieties and quality. Meanwhile, the province has also reaped a good harvest of one of its traditional industrial crops--ramie, with a total output of 380,000 dan, an increase of 19 percent over last year. China is the number one producer of ramie in the world and Hunan Province ranks first in the country, accounting for 38 percent of the total output. [Changsha Hunan Provincial Service in Mandarin 1400 GMT 23 Nov 82 HK]

VEGETABLE SUPPLY--A forum held by the Hunan People's Government on the work concerning vegetable supply in the five municipalities under the jurisdiction of the province concluded on 19 November. The meeting discussed some major problems such as insufficient varieties and seasonable greenstuffs and too many rotten vegetables and losses and called for working solutions. In order to improve such a situation, the meeting called on the leaders at various levels to further emancipate their minds and have more courage to carry out different forms of the production responsibility system. Meanwhile, efforts should be made to improve the income of vegetable growers. Attending and speaking at the meeting were the province's Governor Sun Guozhi and Vice Governor Cao Wenju. [HK241405 Changsha Hunan Provincial Service in Mandarin 1400 GMT 23 Nov 82 HK]

CSO: 4007/67

PRC'S JIANGSU REPORTS RECORD GRAIN HARVEST

OW070449 Beijing XINHUA in English 0248 GMT 7 Dec 82

[Text] Nanjing, 6 Dec (XINHUA)--Jiangsu Province reaped a record 26.25 million tons of grain this year, three million or 12.1 percent more than last year, according to the provincial government.

Ginned cotton output was 550,000 tons, slightly higher than the record year of 1981. Oil-bearing crops, silkworm cocoons and tea all hit historic highs while aquatic products, pigs and poultry showed varying increases.

All seven prefectures in the province, one of China's main grain producers, reported increased grain output.

Xuzhou and Huaiyin Prefectures in the northern part of Jiangsu used to get lower grain output than Suzhou Prefecture in the fertile Yangtze River Delta. But now they have caught up. Huaiyin Prefecture reaped 4.5 million tons of grain, 700,000 tons more than last year, to become the no 1 grain producer in the province, while Xuzhou Prefecture reaped 3.8 million tons, 200,000 tons more than last year, both exceeding Suzhou's 3.65 million tons.

Apart from cotton growing Nantong and Yancheng Prefectures, the other five prefectures have become market grain suppliers. The provincial government described the feat as "the most encouraging change seen in recent years in the province's grain production pattern."

The provincial government attributed the success to efforts to restructure the farm economy and introduction of the production responsibility system. Beginning last autumn, most production teams contracted their land to peasant households. This spurred production enthusiasm, grain was grown on all idle land and sowing, field management and harvesting were done carefully using scientific methods. While continuing to maintain the original grain growing hectarage, the province took steps to promote the development of forestry, fishery, animal husbandry, and sideline production.

CSO: 4020/31

BRIEFS

AGRICULTURAL PRODUCTION--The total grain output in Xuzhou Prefecture, Jiangsu Province, reached more than 7.66 billion jin, an increase of 500 million jin over 1981 and by 3.2 billion jin over 1977. The annual rate of increase is 11.4 percent. The total output of cotton may reach 1.05 million dan, an increase of 200,000 dan over 1981. The total output of edible oil may [phrase indistinct] 300 million jin, an increase of more than 90 million jin over 1981. It is estimated that the state may procure a total of 1.66 billion jin of grain from the peasants in the prefecture this year, with each peasant contributing more than 230 jin. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 18 Nov 82 OW]

RICE PRODUCTION--The masses in Jiangsu Province have reaped another bumper harvest of rice this year. The average per-mu yield of the 10 million mu of hybrid rice is estimated at 870 jin, increasing by 20 to 30 jin compared with 1981. The total output of hybrid rice in Wujin County reached 190 million jin. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 11 Nov 82 OW]

FLOODING REPORTED--Most of the last 10 days of November were rainy in Jiangsu. The whole province generally experienced either moderate or heavy rains, causing waterlogging and "four troubles" to some farmland. According to reports from various localities, about 5 million mu of land in the province were waterlogged. All localities have taken emergency measures to cope with the rains. Personnel have been organized and rushed to the countryside to help dig ditches. During the raining period, Nantong Prefecture repaired and cut drainage ditches in more than 2.5 million mu of land. At present, the prefecture is continuing to cut drainage ditches and tend crops on wet land at the same time. The administrative commissioner's office of Zhenjiang Prefecture has issued an urgent circular calling on all counties to dispatch cadres to production brigades and teams to help the latter dig drainage ditches and lower the water level in inland rivers and ponds. The circular also calls on the counties to organize a full-time work force to dig drainage ditches outside the farmland. By 1 December, the waterlogged land had been drained. [Text] [OW090201 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 4 Dec 82]

WATER CONSERVANCY--The Ministry of Water Conservancy and Power called a national meeting of water conservancy departments at the Jiangdu pumping station to select outstanding units and good-quality projects. Vice Minister Li Boning this morning presented citations to 32 outstanding units and 42 good-quality projects and designs. Of the 14 national good-quality projects selected, only the Jiangdu pumping station won the national gold medal prize. [Excerpt] [OW230143 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 20 Nov 82]

AGRICULTURAL OUTPUT VALUE--According to the provincial statistics bureau, Jiangsu's total agricultural output value in 1981 reached 16.05 billion yuan, an increase of 29 percent over 1978. Jiangsu's total grain output in 1981 reached 50.23 billion jin, an increase of 4.6 percent over 1978. Its total cotton output in 1981 reached 11.27 million dan, while its total oil-bearing crop output was 12.83 million dan, an increase by 18.7 percent and 71.4 percent over 1978 respectively. [Nanjing XINHUA RIBAO in Chinese 20 Nov 82 p 1 OW]

YANGZHOU PREFECTURE AGRICULTURE--Yangzhou Prefecture, Jiangsu, reaped a bumper harvest this year. Its total grain output reached 8.44 billion jin, an all-time high. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 20 Nov 82 OW]

CSO: 4007/67

AGRICULTURAL DEVELOPMENT MEASURES STUDIED

OW290044 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 23 Nov 82

[Excerpts] Recently the provincial agricultural commission held a forum of experts and professors to discuss and study strategic measures for developing agriculture in light of the specific situation in the province.

At the forum the experts and professors decided on three key things to be grasped in developing agricultural production in the province:

1. Ideologically, we should have a broadened view with regard to agricultural production, land and water conservancy. In agricultural production, we should not just develop rice, wheat and soybean production and forget other things such as milk, eggs and meat. We should guard against acting blindly in destroying forests to make more farmland or in reclaiming land from lakes. Speaking of land, we should not just mean paddy fields and dry fields. We should guard against such practice as using grain fields for other purposes in an effort to diversify production and forget that there is plenty of unexploited land on mountains. With regard to water conservancy, we should not limit our work to building reservoirs, digging canals and erecting dikes but ignore control of water loss and soil erosion and forget the need to protect forests and vegetation.

2. As a strategic measure, we should pay attention to the technical transformation of our agriculture. In this connection, it is imperative to change the present state of our low scientific and technological level in agricultural production. An impending task at this time is to seriously implement the party's policy with regard to intellectuals. Secondly, we should conscientiously help scientific research organizations and agrotechnicians establish and perfect the system of individual responsibility and do a good job in agrotechnical consultation service and in the application of successful research results. Efforts should be made to run training classes for agrotechnicians and to select those households which have successfully applied agricultural science and technology as examples for others to follow. The method of signing technical assistance contracts should be put into practice on a trial basis in an effort to raise the level of scientific farming. At the same time, attention should be given to investment in training

intellectuals for rural work. A number of secondary agricultural schools should be established in rural areas so as to train new-type peasants who have a general educational background with special knowledge in the field of agricultural science and technology.

3. Departments concerned should support agriculture and make arrangements for the masses convenience from the viewpoint of developing and promoting production. Cotton is an item in very short supply in our province. Last June, however, Pengze and Duchang counties had an overstock of 100,000 dan of cotton. The commercial department did not want to purchase more cotton for fear of stockpiling this item. Last year Xiushui County had 5,000 dan of Wulong tea in stock, and no one wanted to purchase it. The county tried to sell the tea to other provinces, but the department concerned refused to give it permission to do so. Experts attending the forum expressed the hope that all departments would have a desire to serve agriculture, uphold the concept to overall interests and pay attention to making arrangements for the peasants' convenience and for promoting production.

CSO: 4007/67

HOUSING CONSTRUCTION ON FARMLAND BANNED

OW141554 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 13 Nov 82

[Excerpts] The Jiangxi Provincial People's Government on 9 November issued a circular on firmly solving the problem concerning unauthorized use of farmland for housing construction. The circular calls on all localities to adhere strictly to the guidelines of the report on firmly solving the problem concerning unauthorized use of farmland for housing construction made by the rural policy research office of the secretariat of the CPC Central Committee and the Ministry of Urban and Rural Construction and Environmental Protection of the State Council. It urges all localities to quickly take resolute measures to stop the unauthorized use of farmland for housing construction.

Concerning Jiangxi's actual situation, the circular sets seven rules:

1. It is necessary to strictly control the use of farmland for housing construction. If farmland must be used for housing construction due to restrictions imposed by natural conditions, the request for the land must be carefully examined before it is approved.

2. In view of Jiangxi's land situation, the existing rule to limit the area of land for commune members' housing construction to 100-165 square meters per family, set by the provincial people's government, remains good.

3. All county and municipal people's governments should rapidly adopt concrete measures to manage the land for rural housing construction in accordance with "regulations governing the management of land for village and township housing construction" promulgated by the State Council and also this circular and in consideration of local conditions.

4. All county and municipal people's governments should set the scope of land plans for peasants' housing construction in accordance with the principles for village and township planning laid down by the former state capital construction commission and the former state agricultural commission.

5. In order to encourage the use of smaller land for housing construction, agricultural tax may henceforth be exempted for 5 to 10 years on the yields from the land which is restored to farmland from residential land in the course of building new housing or renovating old housing.

6. All county and municipal people's government should conduct a large-scale inspection on the unauthorized use of farmland for housing construction this winter or next spring. It is first necessary to resolutely stop the cadres from taking the lead in using farmland for housing construction without authorization.

7. The governments at all levels must strengthen specific leadership and release a number of cadres from various county departments concerned with work among the people and help villages and townships work out overall construction plans. The plans should be formulated as soon as possible on the basis of investigation and study. They should be submitted to county or municipal people's governments for approval prior to implementation.

CSO: 4007/67

BRIEFS

SHANGRAO PREFECTURE ACRICULTURE--Despite this year's flood, which damaged 1.23 million mu of farmland for early rice, Shangrao Prefecture, Jiangxi, still increased its total grain output this year by 400 million jin, or 11 percent over last year. Currently, the prefecture has delivered 745 million jin of grain to the state. The prefecture has also procured 12,400 dan of cotton and 17.21 million jin of fat. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 20 Nov 82 OW]

FUZHOU PREFECTURE AGRICULTURE--Despite this year's flood disaster, Fuzhou Prefecture, Jiangxi Province, has still achieved a good harvest. Total grain output tops last year by some 300 million jin and surpasses the highest previous record by 260 million jin. Production of cash crops, such as rapeseed, soybean, peanut and sesame seed is also high. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Nov 82 OW]

PINGXIANG MUNICIPALITY AGRICULTURE--Pingxiang Municipality, Jiangxi, has increased its grain output this year to more than 730 million jin, a 110 million jin increase over last year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 20 Nov 82 OW]

CSO: 4007/67

QIANG XIAOCHU INSPECTS CHANGCHUN AND JILIN

SK171022 Changchun Jilin Provincial Service in Mandarin 1100 GMT 16 Nov 82

[Text] From 3 to 10 November, Comrade Qiang Xiaochu went to Changchun and Jilin municipalities to investigate and sum up their experiences in wresting a bumper harvest despite the serious drought and to give opinions on the work ahead. While summarizing the practical experiences of various localities, he pointed out: When policies are correct, it is possible to reap a bumper harvest despite serious drought. Fundamentally, it is the party's policies that give tremendous power and arouse the potentially immeasurable wisdom and creativity of the masses.

Comrade Qiang Xiaochu went to Lishu County and Jilin Municipality to hold discussions with 10 secretaries of county CPC committees and two secretaries of suburban area CPC committees. He also went to Yushu, Shulan, Yongji and Jiutai counties to conduct on-the-spot investigations in some communes, and brigades and at the threshing grounds and homes of commune members and to hold talks with cadres in communes and brigades and with commune members. Everywhere, he saw and heard the people acclaim with certainty that the implementation of responsibility systems this year has contributed to the bumper harvest in a year of drought. They expressed satisfaction and ease of mind with the party committee's timely promulgation on not changing the contract procurement tasks, the policy on retaining and purchasing farm crops and the policy on production contracts. They said: It was unexpected that correct policies would bring about a bumper harvest in year of drought. It is the party's policies that brought about a year of good harvest in agriculture and animal husbandry. According to reports from various localities, this year our province had another good harvest, following last year's.

Comrade Qiang Xiaochu called on cadres and the masses to take the guidelines of the 12th National CPC Congress as a weapon to realistically sum up this year's rich experiences in combatting drought to reap a bumper harvest and to make good preparations ideologically and materially for production in the future. Comrade Qiang Xiaochu said: This is an unusual year--a year of excitement, twists and turns and good harvest. We can say that the people of our province have fought a tough as well as a fierce battle. The so-called tough battle refers to our victory over the unprecedented serious drought, and the so-called fierce battle refers to the perilous, tense and arduous combat-drought struggle. Especially during the 70-80 day crop growing period in which there was no saturating rain, the masses were in an anxious state of mind. Some places made preparations against natural disasters for a time. Nevertheless, the party's policies aroused the people's enthusiasm to overcome natural disasters and to wrest a good harvest.

Some comrades said: This year, we first felt pleased to see that the spring rain benefited the growth of seedlings, then worried about the insufficient saturating rain during the 70-80 day summer and autumn period and finally felt pleased again with the long, frostless period which resulted in a good harvest of hills and hills of food expected that is we never expected that all seedlings would benefit by the spring rain; that such a serious drought would occur in summer and autumn; and that we would reap such a good harvest in the autumn. This shows that we have gone through a very complicated situation. Indeed, it is a miracle to wrest a bumper harvest in a year of serious drought. We need to sum up the experiences in performing this miracle.

Some people said that heaven helped them and that the good weather in the late stage of the crop growing period resulted in this bumper harvest. Some people also said that they had effective measures for increasing this year's agricultural production. Such views are all definitely reasonable. However, they have not pinpointed the essence of the issue. We should see through the appearance to the essence. The fundamental reason for this year's bumper harvest despite the serious drought is the power of the party's policies and the implementation of the guiding principles of the central authorities and the provincial CPC committee on further emancipating thinking, the bold implementation of the production responsibility systems in line with the desires of the masses and the relaxation of the restrictions on the masses so as to give full rein to the potentially immeasurable socialist enthusiasm, the wisdom and talent of the masses. This inexhaustible power has created the miracle of wresting a bumper harvest in a year of serious drought.

Why do we have the three unexpected things? It is because our understanding lagged behind the practical situation. We have noticed or only paid attention to serious drought and neglected the power of the party's policies. We have also underestimated the masses' socialist enthusiasm aroused by the party's policies. Some people said that heaven helped them. This is not correct, because this year heaven actually did not give much help during the crop growing period. We had 200 millimeters less rainfall than in normal years during the crop growing period; we experienced no floods during the flooding season and no rain during the rainy season. If we did not have the production responsibility systems to arouse the commune members' enthusiasm to combat drought, to protect seedlings and to wrest a bumper harvest, how could heaven create food grain while we could not even ensure the full growth of seedlings.

What the masses say is good. The people's efforts together with the help of the heaven and the policies have brought about this bumper harvest. Policies are the fundamental reason for this success. If we did not have the production responsibility systems, the people would not have enthusiasm, nor could heaven render any help.

Some commune members said that the implementation of the production responsibility system is another great liberation of the production force after the land reform. This is very reasonable. We must realistically sum up this year's tense, tortuous and rich struggle experience, enhance our understanding of policies and the party's mass line, further strengthen our consciousness of the earnest implementation of the party's policies, persist in relying on the masses, and better research and formulate plans for next year and for the days to come so as to create a new situation in our province's agricultural development.

Comrade Qiang Xiaochu urged all localities, while holding training classes for party members and cadres this winter and next spring, to take the 12th CPC Congress guidelines as weapons for earnestly summing up the experiences gained in the work this year and to conduct mass discussions and summations on the experiences.

He emphatically noted: To sum up the experiences is aimed at further enforcing and bringing into full play the tremendous role of various production responsibility systems that have been suitable to local conditions. He stated: The people are the masters of history and the true heroes. As Comrade Stalin said it well, ordinary people are often closer than high echelon officials to the truth. We, therefore, should fully trust and rely on the masses and boldly hand over to them the decisive right of selecting responsibility systems. This means that the masses should be allowed to chose their own responsibility system according to the practical effectiveness of the system. Leading cadres should refrain from being prejudiced, setting up rigid rules and seeking uniformity in doing everything. This means that each responsibility system to be enacted should be exactly suitable to local conditions, should be an incentive to greater output and should be welcomed by the masses. It is necessary that it be clear that each responsibility system is legal and of a socialist character.

Comrade Qiang Xiaochu called on all leading cadres to actively go into action and go deep among the masses, and through investigations and studies, to accurately discern the people's desires, to support the people's correct demands and to guide or encourage the people to become wealthy through labor. In implementing production responsibility system, leading cadres should give the people a free hand in their work but refrain from letting any deviations made in implementing the systems unchecked. This means that we should give the people a free hand in selecting their responsibility system and respect the people's opinions, but that we should not let the slightest deviation be made in exacting responsibility systems unchecked. Efforts should be made to strengthen leadership over the work and carry out the work in a down-to-earth manner.

Comrade Qiang Xiaochu pointed out: It is totally wrong to say that the party branch is of no use when a responsibility system of assigning farm output quotas for individual households has been enacted. As a matter of fact, the party branch should make further efforts to conduct guidance in every household following the enactment of production responsibility systems. This means that, following the enactment of responsibility systems, the duty of cadres is heavier, more complicated and more painstaking than before. In the past, the party branch just dealt with large groups of people because they, as a group, started a day's work when the bell rang, attended meetings to have their work appraised and did their work in a massive, unplanned manner. At present, the party branch, however, should deal with specific production teams, work groups households and individuals, as well as with every production link.

Our cadres should see their heavy duties and be full of enthusiasm and the spirit of being responsible for the party and the people to enhance their leadership over the work to enact various responsibility systems. They should help every production team, work group and household in making preparations in various areas, such as grain strains, chemical fertilizer, agricultural chemicals, animals, production tools, food grain and fodder, and in making arrangements for various production links, such as farming preparations, spring sowing, summer hoeing, autumn harvesting and distribution.

Comrade Qiang Xiaochu urged cadres across the province to work together with the masses while studying and implementing the 12th CPC Congress guidelines, to grasp well the current work, to make good arrangements for the 1983 work and to map out long-term plans for quadrupling agricultural output value. He stated: Current tasks for rural areas are to vigorously thresh crops, deliver grain to granaries and to conduct autumn distribution. Then, rural areas should hold rotation training classes in a planned manner to educate party members and cadres in an effort to achieve the enhancement of leading bodies and grassroots work. Attention should be paid to studying and solving new problems existing in the new situation of enacting responsibility systems. For example, our province has less farmland, and its per capita acreage of farmland is only 3 mu. The province, however, has over 120 million mu of land suitable for planting trees and over 40 million mu of grassland and land suitable for herding animals. If we fail to get rid of the rigid principle of taking grain production as our main task and concentrate on this task only, we will hardly become wealthy. To become wealthy, we simply must follow the principle of engaging in a diversified economy and conducting comprehensive development by combining farming, forestry, animal husbandry, side-occupations and fisheries, as well as conducting comprehensive development of industry, agriculture and commerce. All of this requires leading cadres to stand on a higher place to get a far-reaching view and to refrain from concentrating only on grain production. While doing a good job in grasping grain production, leading cadres should accurately understand their local conditions to develop their strong points and to strive to achieve rapid development in mountainous and aquatic production.

Only by fully utilizing our province's natural resources and developing the rural economy in an all-round way, particularly by opening more avenues for domestic side-occupations and developing a diversified economy, will we be able to quadruple the agricultural output value at the end of this century and to attain a well-to-do standard of commune member livelihood.

CSO: 4007/67

RURAL CADRES URGED TO IMPROVE RESPONSIBILITY SYSTEM

SK030347 Changchun Jilin Provincial Service in Mandarin 1100 GMT 2 Dec 82

[Station commentary: "Do Not Wait and See, Vigorously Readjust and Improve the Responsibility System"]

[Text] Many localities in our province are currently deliberating or conducting the work of readjusting and improving the production responsibility system. Party committees at all levels have included the work in their work schedule. However, some brigade or production team cadres are still taking a wait-and-see approach. Commune members say that brigade cadres are waiting to collect the systems others have improved, production team cadres are waiting to select one from the collected systems and work group leaders are waiting to implement the selected ones. Such a passive attitude, if not corrected, is bound to adversely influence the readjustment and improvement of the production responsibility system. Leading persons at all levels should pay attention to this and conscientiously work out ways to solve it. The production team cadres' wait-and-see attitude mainly arises from their misunderstanding of the system of allotting work to individual households, which they think is a kind of individual farming divorced from the collective. All party organizations should intensify the education on policies to enable cadres who have such a misunderstanding to further understand that allotting work to individual households is a form of the production responsibility system of the socialist collective economy. They should see that the contracted households should at once have decisionmaking right in management and subject themselves to the guidance of the state plan and the unified management of production teams. After institution of the system, not only production teams cadres, who are to take charge of the managerial work, but also corresponding and more scientific managerial work are needed. It is hoped that production team cadres will adapt themselves to the new situation emerging after the institution of the responsibility system, study new conditions and solve new problems so as to take the lead in readjusting and improving the production responsibility system and in creating a new situation in production.

CSO: 4007/67

RURAL WORK CONFERENCE HELD

SK050217 Changchun Jilin Provincial Service in Mandarin 1100 GMT 4 Dec 82

[Text] According to our sources, the provincial CPC committee held a provincial rural work conference in Changchun on 4 December. Comrade Mu Lin, Standing Committee member of the provincial CPC committee, presided over the conference. Comrade Zhang Shiying, secretary of the provincial CPC committee, relayed the guidelines of the national conference on rural political and ideological work and the meeting of agricultural secretaries of CPC committees in various provinces, municipalities and autonomous regions. Attending the conference were agricultural secretaries of CPC committees, directors of agricultural and industrial departments and heads of propaganda departments of various municipalities, prefectures and autonomous prefectures. Also attending were agricultural secretaries of various county CPC committees and responsible persons of departments concerned directly under the provincial people's government.

Comrade Mu Lin said at today's conference: The tasks of this conference are to comprehensively implement the guidelines of the national conference on rural political and ideological work and the meeting of agricultural secretaries of CPC committees in various provinces, municipalities and autonomous regions; to conscientiously sum up our province's experiences gained in rural work since the Third Plenary Session of the 11th Party Central Committee; to unify our understanding and emancipate our thinking; to discuss and define the strategic goals for our province's agricultural development and the tasks for the 1983 production; to discuss the issues concerning the readjustment, improvement and development of the agricultural responsibility systems, the transformation of rural systems and the relaxation of policies; to discuss the issues on strengthening and improving party leadership and rural political and ideological work; to further implement the guidelines of the 12th Party Congress; and to carry forward the new achievements in agriculture so as to achieve success in building our province's socialist material and spiritual civilizations.

CSO: 4007/67

BRIEFS

GRAIN HARVEST--This year, Jilin Province's Tonghua Prefecture saw a rich agricultural harvest. As of 28 November, the prefecture overfulfilled its annual grain procurement task of 500 million jin by 60,000 jin. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 2 Dec 82 SK] Yanbian Korean Nationality Autonomous Prefecture in Jilin Province reaped bumper agricultural harvests despite this year's natural calamity. This year the prefecture harvested 1.1 billion jin of grain, 25 percent higher than 1981, topping the highest level in history. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 2 Dec 82 SK]

BAICHENG PREFECTURE GRAIN PROCUREMENT--Baicheng Prefecture, in Jilin Province, which has suffered serious natural disasters, had put 508.32 million jin of grain in storage by the end of November, overfulfilling the annual procurement plan by 13 percent. [Changchun Jilin Provincial Service in Mandarin 1100 GMT [date not given]]

SIPENG PREFECTURE GRAIN OUTPUT--Siping Prefecture, Jilin Province, is expected to reap 5.5 billion jin of grain and soybeans, in 1982, an increase of 2 percent over 1981. The peasants in this prefecture attributed the bumper harvest to the implementation of production responsibility systems. Production teams implementing the double contracting system account for 72 percent of the prefecture's total. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 22 Nov 82 SK] In Jilin Province, Siping Prefecture had stored 1.82 billion jin of grain by 26 November and Changchun Municipality had stored 1,497 million jin by 25 November, both overfulfilling their grain procurement targets. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 27 Nov 82 SK]

JILIN MUNICIPALITY GRAIN PROCUREMENT--As of 18 November, Jilin Province's Jilin Municipality sold 600,230,000 jin of grain to the state, overfulfilling its annual grain procurement task. The municipality sold 264.12 million jin of paddy rice to the state, overfulfilling its procurement plan by 1.6 percent and accounting for 43.3 percent of the province's total. It sold 119.79 million jin of soybeans to the state, overfulfilling the soybean procurement plan by 33.1 percent. [SK210032 Changchun Jilin Provincial Service in Mandarin 2200 GMT 19 Nov 82 SK]

PADDY RICE PRODUCTION--As of 24 November, Jilin Province had stored 713.57 million jin of paddy rice, overfulfilling the annual procurement target by 18.9 percent. More than 90 percent of the paddy rice was of the first quality. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 27 Nov 82 SK]

FOREST OWNERSHIP--By September Jilin Province had fixed the ownership of 10.36 million mu of mountains and forests, accounting for 85.3 percent of the mountains and forests whose ownership was to be fixed, assigned 1,735,000 mu of mountains and forests to communes in forestry areas who had no forests and allocated 542,000 mu of privately owned mountainous areas to 75,000 households. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 27 Nov 82 SK]

SOYBEAN HARVEST--Jilin Province has reaped a bumper soybean harvest in 1982. As of 11 November, Jilin Municipality had stored 106.6 million jin of soybeans, overfulfilling the task by 21 percent. Tonghua Prefecture has stored 62.93 million jin, 4.9 percent above plan. Yanbian Korean Autonomous Prefecture had stored 92.35 million jin, overfulfilling the assigned quota by 15.4 percent. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 21 Nov 82 SK]

CSO: 4007/67

COMMENTARY ON RESPONSIBILITY SYSTEM

SK170846 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 16, 18, 22 Nov 82

[16 Nov 82]

[Station's fourth commentary on the system of fixing output quotas on households and the system of peasant households assuming full responsibility for task completion, entitled: "Letting Peasant Households Assume Full Responsibility for Task Completion Will Further Reflect the Principle of To Each According to His Work"]

[Text] Some people worry that the socialist principle of to each according to his work will be changed along with the instituting of the system of peasant households assuming full responsibility for task completion. It is just the opposite. The system will further reflect this principle. As everybody knows, in the socialist principle of to each according to his work, distribution is based on the amount and quality of work done by every member in society for developing the national economy. In the system of peasant households assuming full responsibility for task completion, the principle for distribution of products is that quotas to be turned over to the state are fulfilled first, then sufficient supplies are retained for collective use, and finally the rest belongs to individuals. This takes into account the interests of the state, collectives and commune members. In the meantime, because the form of distribution has changed from distribution according to workpoints to distribution according to prescribed production output, the equalitarianism of eating out of the common pot has been overcome and the principle of to each according to his work and more pay for more work has been reflected.

Our collective economy has followed the Soviet system of collective farms to a great extent. In distribution, the workpoint system has been implemented. Because these systems have been adopted for a relatively long period of time, the people consider them as fixed models of socialist agriculture. Many years of practice have shown that workpoints can only measure how long one works but not the amount of labor and, therefore, cannot represent the socialist form of distribution. They are not the only way to implement the principle of to each according to his work.

Contracts are the core of the system of peasant households assuming full responsibility for task completion. The form of distribution is making payments in accordance with production output. Remuneration is based on the prescribed production output. Above-quota remuneration should be given for above-quota output. Compared with the form of assigning payment in accordance with workpoints, the form of assigning payment in accordance with production output more fully embodies the principle of to each according to his work. Because the system of peasant households assuming full responsibility for task completion can further reflect the socialist principle of to each according to his work, it makes every laborer concerned with his work results in light of personal material interests. Peasants can arrange and plan their production items in line with their capacity and speciality and throw all their energy into their production. By so doing, the initiative of every member of a household--including men, women, the old and the young--will be mobilized. Therefore, it is a strong force to promote production.

Noticeable changes have been made in production in those places which have implemented the system of peasant households assuming full responsibility for task completion. In some places, their production has doubled and redoubled. Peasants have happily said: With the implementation of this system, financial resources have been broadened and agriculture, forestry, animal husbandry, sideline production and fishery have become prosperous. A happy situation has descended upon the impoverished production teams. In rich production teams, flowers have been added to the brocade. All these facts indicate that the system of peasant households assuming full responsibility for task completion is a new key in changing poverty to riches and is a thoroughfare to develop agriculture production. Therefore, we should emancipate our thinking, eliminate the left influence, take our own roads and build a modernized agriculture imbued with Chinese characteristics. The implementation of the system of peasant households assuming full responsibility for task completion is an important part in building a modernized agriculture imbued with Chinese characteristics.

[18 Nov 82]

[Station's fifth commentary on the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, entitled: "Correctly Understand the Peasants"]

[Excerpts] (Chen Baohua's) family, a household that contracts for crop farming in (Qijiazi) brigade in Xinmin County's (Sandaogangzi) commune, has sold more than 55,000 jin of grain to the state, overfulfilling the prescribed quota by 46,000 jin. Prior to the sale, someone told him that he could get 2,000 yuan more at the market price than by selling his grain to the state. However, (Chen) firmly said: Even if the market price is higher, I will market my grain to the state.

(Chen's) thinking and behavior demonstrates the tremendous socialist enthusiasm of the peasants in our province after having instituted the responsibility system in production. This is the main trend of ideology and political sense of the peasants in the 1980's.

At present, many comrades underestimate the thinking of peasants. Some people have said, for instance: With more money in their hands, today's peasants are more selfish. Having implemented the responsibility system, peasants only take into account their personal interests and neglect the collectives'. Whenever they speak of the peasants, they refer to them as selfish, narrowminded, conservative, ignorant and backward. Lenin's judgment on individual peasants made in the Soviet Union's early period of economic policies and expressed in his statement that small-scale production is a constant, day-to-day force and is a tendency of capitalism and the bourgeoisie has become an invariable theoretical basis used by these comrades in understanding peasants. The reason these comrades have such wrong ideas is that they always approach today's problems with yesterday's visions and they have failed to completely free themselves from the yoke of leftist ideology.

We should see that today's peasants are basically different in various respects from those in the early post-liberation period. Through the socialist transformation, our country's rural areas have carried out the cooperative movement and eliminated the exploiting class. Peasants are closely integrated with the destiny of our socialist motherland. They have broken through the limits of narrowmindedness and of small producers and widened their fields of vision. Since the Third Plenary Session of the 11th Party Central Committee, the broad masses of peasants, under the guidance of the party's line and principles, have given full play to their role involving initiative and enthusiasm. They have continually made new contributions to creating a new socialist life.

In the meantime, we should notice that many peasants today have been corroded by the influence of feudalist and bourgeois ideology and have been affected to a certain extent by the pernicious influence of anarchism and ultra-individualism in the 10 years of turmoil. A negative situation still exists in a few people. This shows that we should strengthen ideological and political work among the peasants. However, we should by no means negate the progress made by the peasants in the past few decades under the party's education, let alone attribute all these consequences to the instituting of the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion and, therefore, be skeptical about the correctness of the rural economic policies formulated since the Third Plenary Session of the 11th Party Central Committee. Only by so doing can we stay sober-minded in readjusting the rural production relations and in reforming the system of economic administration.

[22 Nov 82]

[Seventh station commentary on the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, entitled: "The System of Fixing Output Quotas Based on Households and the System of Peasant Households Assuming Full Responsibility for Task Completion Are Not Expedient Measures"]

[Text] At present, while implementing the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, some comrades say: Do not fool around, these systems will be changed before long. These comrades regard the responsibility system as a bad interim measure and a stopgap.

We think that the system of fixing output quotas based on households and, in particular, the system of peasant households assuming full responsibility for task completion are great creations of China's peasants, proceeding from the reality of rural areas and implementing the policies formulated by the Third Plenary Session of the 11th Party Central Committee. They are relatively good forms of the responsibility system for managing and administering our country's socialist agriculture in the present period. Compared with other forms of the responsibility system, these two are most connected with the peasants' material interests. The assignment of responsibility in these two forms are most specific and their distribution methods are the simpliest. They are suitable for natural conditions and economic development levels in most rural areas. They are important managerial and administrative forms which have been gradually established, through repeated comparisons and selections, by the broad masses of peasants in the course of the protracted collectivization of agriculture. Meanwhile, these two forms have become the major ones in rural areas throughout the country. On the basis of this, how can we say these forms are the worst ones? On the contrary, they should be adopted for a long period of time.

Viewed from the experiences and lessons gained in our country's economic development, all major economic reforms need a relatively long time to become stabilized. If we make changes every 2 or 3 days, peasants will not feel steady and sure and will certainly be skeptical about the stability of policies. In this case, how can they keep their minds on their production? Since the cooperative transformation of agriculture, peasants have suffered a [word indistinct] physically and mentally. In communes and brigades implementing the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, peasants most worry about returning to the old path--eating out of the big communal pot--or returning to other forms which they do not welcome. Therefore, we should not go against the will of peasants, let alone cook up the wrong idea that these two forms of the responsibility system will not last for a long time and will be changed.

We should also see that the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion were introduced in the province just 1 or 2 years ago. However, practice has fully proved that these two forms of the responsibility system have great vitality and superiority. In the meantime, we should see that because these two forms of the responsibility system were introduced not long ago and we have had little experience in this regard, there have been some problems in the course of implementation. For instance, how do we properly handle the relations between unified management and the division of labor? How do we manage and use draft animals and farm tools? How do we make proper arrangements for surplus labor forces? These problems cannot be solved in one morning or evening. To solve these problems, peasants' efforts are needed and a relatively long time should be taken.

In his report to the 12th Party Congress, Comrade Hu Yaobang pointed out: The responsibility system for production set up in various forms in the countryside has further emancipated the production forces and it must be adhered to for a long time to come. The thing for us to do is to gradually perfect it on the basis of summing up the practical experience of the masses. In no case must we make rash changes against the will of the masses. With such clear instructions from the party Central Committee, how can we worry about the protracted nature of the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion? Of course, changes will occur with anything. In the future, when the rural production forces are highly developed, new organizational forms will certainly emerge to suit this situation. This is a necessary law of development of things. What kinds of responsibility system in production will be developed in the future? It depends on the will and choice of the peasants. In other words, we would let peasants themselves create the form instead of following the rigid rules of the higher authorities. Above all, we should on no account backtrack.

CSO: 4007/67

DEVELOPMENT OF MOUNTAINOUS AREAS REPORTED

SK241249 Shenyang LIAONING RIBAO in Chinese 8 Nov 82 p 1

[Excerpt] In the course of studying the documents of the 12th Party Congress, the Jianping County CPC Committee, in line with the reality of the county and the present situation in sending relief to disaster areas, decided to apply the experiences they have gained in implementing the system of signing comprehensive contracts for fixed quotas to manage farmlands, which amount to 20 percent of the county's total areas, to management of mountainous areas, which amount to 70 percent of the county's total, so as to fulfill the long-range plan for wealth and make new progress in building mountainous areas.

Jianping County is a mountainous region with a vast territory but sparse population. Since this spring, over 90 percent of communes and brigades have implemented the "double contracting systems" and that has aroused the enthusiasm of the masses. Despite serious drought for 3 successive years, some communes and brigades have taken the "three-dependence" label off and the people of the county are calm and full of vitality.

In the course of studying and implementing the guidelines of the documents of the 12th Party Congress, the county CPC committee sent three investigation groups to Penghechuan, Linghechuan and Laohahechuan communes to conduct investigations. Summing up the experiences, they concluded that the policies of the party had tremendous force. The broad masses of commune members and grassroots cadres have drawn benefits from the "double contracting systems" and the potentials for production have been tapped and, as a result, the labor force and labor time showed surpluses. The system of signing contracts for fixed agricultural output quotas on 20 percent of the county's total areas no longer meets the masses' demands for eliminating poverty in order to prosper. So the masses eagerly demanded the expansion of the "double contracting systems" to develop the mountainous areas that account for 70 percent of the county's total area.

They held: It would be better to provide good policies than to provide money and food for the people. The "double contracting systems" has solved problems of food and clothing. The sooner we introduce the "double contracting systems" to further develop the mountainous areas, that account for 70 percent of the county's total areas, the earlier the mountains become green and the sooner the people become prosperous. This will greatly benefit the country and the people.

The county CPC committee firmly decided to formulate some provisional regulations on developing barren hills, waste ditches and waste beaches and some stipulations on signing contracts to develop collectively-owned mountain forests and grasslands.

On the premise of constant ownership systems and with regard to the interests of the state, collectives and individuals, the county CPC committee will sign contracts with commune members to develop barren hills, waste ditches and waste beaches and to take charge of some collectively-owned mountain forests and grasslands.

The regulations pointed out: The county government will issue licenses to households to manage private mountainous areas, beaches and ditches. The licenses will be effective for a long period of time and can be inherited. In accordance with demands for tackling problems in planned and comprehensive ways, commune members have the right of management. Commune members can market the timber and sideline products of private mountainous areas. Collectives will provide nursery stocks for commune members to develop barren hills. The collectively-owned mountain forests should implement various forms of responsibility systems such as systems of assigning fixed quotas to a group of households, individual households, and individuals and systems of signing contracts for fixed output quotas with teams, work groups and individuals engaged in specialized production. Various regulations on dividing mature timber have been stipulated.

CSO: 4007/67

COMMENTARY ON PROTECTING FARMLAND

SK150933 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 13 Nov 82

[Station commentary: "We Must Protect Arable Land"]

[Summary] Some communes and brigades in the suburban areas of Shenyang Municipality have engaged in the unhealthy practice of making over and lending arable land to other units in order to establish contacts. This kind of violation of state law must be strictly dealt with. Arable land is the means of production for developing agriculture. With the population increase and the development of all construction undertakings, the phenomena of wasting arable land are very serious in our province's urban and rural areas. The area of arable land is continuously decreasing. During the early period of the founding of China, the average per capita arable land for people in the province was 3.9 mu. By 1980, the average per capita arable land declined to 1.6 mu. If things go on like this, our province's agricultural production, other socialist undertakings and the livelihood of the people will be greatly affected. "Therefore, strengthening land management and strictly controlling the utilization of land in construction is one of the important issues in the current four modernizations drive. The utilization of land must be in line with the state stipulations and policies of the State Council and the province on land management. Rural communes and brigades are never permitted to trade arable land. Commune members only have the right to till private plots and contact responsibility plots. They do not have the right to own the land, and they even are not allowed to sell or to lease the farmland."

"It is hoped that all localities will adopt measures to protect arable land. In addition, all localities must step up investigations and deal with all violations of the state stipulations on land management in a timely manner."

CSO: 4007/67

REPORT ON BUILDING HOUSES ON FARMLANDS

SK260503 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 25 Nov 82

[Text] The provincial rural housing construction conference sponsored by the provincial CPC committee and government concluded in Tieling 22 November. The conference urged: Currently efforts should be made to attend to propaganda and education, work out plans for rural housing construction and immediately stop unplanned housing construction and unauthorized occupation of farmlands.

Since the Third Plenary Session of the party, the masses of peasants have improved their living standards and built many houses on the basis of developed production. However, a phenomenon of unplanned housing construction and unauthorized occupation of farmlands has also appeared. The phenomenon is grave in some areas.

The conference urged: We must enhance our understanding and approach from the perspective of national policies the task of valuing every inch of land. We should educate the cadres and people to link immediate interests with long-term interests and never foster the idea that building more houses on farmlands means "showing concern for the masses." If we build houses on farmlands, farmland will be reduced more and more and we will unavoidably hand trouble to later generations and make historical mistakes. The cadres and people should conscientiously study relevant laws and regulations of the state and the province and resolutely stop the evil trend of arbitrary occupation of farmlands.

The conference called on efforts to immediately organize personnel to go to grassroots units to investigate the problem of unplanned housing construction and unauthorized occupation of farmlands, particularly to investigate leading cadres and party-member cadres with such problems, and to strictly handle the incidents in violation of policies, laws and decrees.

CSO: 4007/67

PEASANT EDUCATION MEETING ENDS

SK131158 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 12 Nov 82

[Text] According to our reporter, a 4-day provincial experience exchange meeting on peasant education concluded in Shenyang on the afternoon of 12 November. The meeting summed up and exchanged experience on leadership, management and basic teaching of peasant education and discussed ways to improve peasant educational work in line with the gratifying situation in rural areas which has resulted from the implementation of the responsibility system in agricultural production.

Along with the implementation and perfecting of responsibility systems in production, an upsurge in studying scientific knowledge has begun in our province's rural areas. Education on technical know-how has been promptly developed and that on cultural knowledge has been in the ascendant. A new situation--a combination of political, cultural and technical education, a combination of popularization and improvement and the simultaneous development of varied teaching forms--is taking shape in our province's peasant education. More than 700,000 people are receiving such education.

Although our province has scored great achievements in peasant education, viewed from a practical standpoint, peasants' educational and scientific levels are still low, far from meeting the demands of agricultural modernization and rapid agricultural development. This has demonstrated the urgency of popularizing and enhancing education on agricultural and scientific knowledge among the broad masses of peasants. The meeting also put forward some specific measures to enhance peasants' educational and scientific levels and exchanged some experiences. At the conclusion, deputy governor Zhao Qi attended and addressed the meeting.

CSO: 4007/67

BRIEFS

COTTON OUTPUT--Liaoning Province had purchased 350,000 dan of ginned cotton as of 12 November, fulfilling its annual procurement plan. The province's ginned cotton output is estimated at 440,000 dan, topping the 1981 figure by 25,000 dan. Procurement work is continuing. [Shenyang LIAONING RIBAO in Chinese 14 Nov 82 p 1 SK]

GRAIN OUTPUT--Shenyang Municipality, Liaoning Province, has achieved a record grain and soybean output in a year of serious drought. The total output of grain and soybean is 3,205,000,000 jin, surpassing the previous record output in 1980 by 55 million jin. [Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 2 Dec 82 SK]

LIAOYUAN MUNICIPALITY SOYBEAN PRODUCTION--In Liaoning Province, Liaoyuan Municipality had procured 29.58 million jin of soybeans by 1 November, overfulfilling its annual soybean procurement task by 330,000 jin. [SK051022 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 4 Nov 82 SK]

LOW AGROTECHNICAL STANDARD--The great importance of relying on science and technology to develop agriculture is being recognized by more and more people. In particular, since the institution of the production responsibility system, the masses have become very eager to master scientific farming technology. However, our province's current agrotechnical capacity and level of technical guidance lag far behind the needs in agricultural development. According to statistics, every one of our agrotechnical cadre is responsible for giving technical guidance for some 9,000 mu of farmland. In some counties and areas, there is only one agrotechnician for every 5,000 peasants. For this reason, training agrotechnical cadres and developing the people's abilities and wisdom have become an extremely urgent task for promoting agriculture. The vast rural areas are presently in the midst of a new, great period of changes. Agricultural broadcasting schools meet the rural needs in their new changes. They provide timely help, gear their work to the urgent needs of peasants, improve service and regard the work of the masses of peasants as their own. Their ideas and workstyle are worth emulation by other units. [Text] [SK010348 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 30 Nov 82]

COTTON PROCUREMENT--As of 15 November Liaoning Province had procured 364,700 dan of cotton, overfulfilling the state plan by 4.2 percent and registering an increase of 1,600 dan over the 1981 figure. [Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 17 Nov 82 SK]

SOYBEAN PROCUREMENT--As of 10 November, Liaoning Province's Tieling Prefecture sold 130.95 million jin of soybeans to the state, overfulfilling its annual soybean procurement plan by 0.7 percent. Of the total, 84.8 percent are top-quality soybeans. [SK210036 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 18 Nov 82 SK]

GRAIN PROCUREMENT--Liaoning Province had purchased and stored up 2.26 billion jin of grain and oil-bearing crops as of 6 November, fulfilling 36 percent of the state procurement plan and storing up 400 million jin more than the corresponding 1981 period. Xinbin and Qingyuan counties have fulfilled their procurement tasks. The provincial grain bureau recently pointed out the following problems in grain procurement: 1) Some municipalities, counties and districts have not paid enough attention to grain procurement and work in this regard progressed slowly. 2) Some organizations, PLA units and enterprises have gone to the countryside to purchase grains and oil-bearing crops despite the state guidance to the contrary. Some small retailers have purchased grains and oil-bearing crops in the countryside and resold them at a profit, obstructing state procurement. 3) Inadequate power supply in the countryside has hampered the threshing of grains. 4) Some grassroots grain depots failed to make adequate preparations for procurement. [Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 17 Nov 82 SK]

CROP PROCUREMENT--To date Liaoning Province has procured 295,617 dan of ginned cotton and 364,464 dan of flue-cured tobacco, fulfilling the procurement plans by 84.5 and 72.9 percent, respectively. [Shenyang LIAONING RIBAO 31 Oct 82 SK]

LIAOYUANG MUNICIPALITY GRAIN PROCUREMENT--Liaoyang Municipality, Liaoning Province, has reaped the third bumper harvest in agriculture this year. The municipality is assigned to procure 440 million jin of grain in accordance with the state contract quota. By 9 November, grain departments in the municipality had procured 243 million jin of grain, 46.85 percent of the total and an increase of 88 million jin over the corresponding 1981 period. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 16 Nov 82 SK]

AGRICULTURAL INCREASE--Since the third plenary session, Liaoning Province has reaped good harvests successively for many years. Compared with 1978, its 1979 and 1980 grain output were 6.9 and 9.4 percent higher, respectively. Its 1981 grain and soybean output was the third highest since the founding of the PRC. It achieved an annual increase of 42.7 percent in the output of oil-bearing crops since the third plenum. In 1981, its cotton per-mu yield increased from 31 to 75 jin and its tussah cocoon output reached 905,000 dan. [Shenyang LIAONING RIBAO in Chinese 19 Oct 82 p 1 SK]

AUTUMN AFFORESTATION--By the end of September, Liaoning Province has afforested 771,000 mu and leveled 1.33 million mu of forest land. [Shenyang LIAONING RIBAO in Chinese 11 Nov 82 p 1 SK]

AGRICULTURAL PRODUCTION--Fengcheng County, Liaoning Province, has reaped a bumper harvest this year. Among the 2,172 brigades in the county, 1,567--72 percent--have implemented the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion. Although hit by serious floods, droughts, strong winds and other natural disasters, total grain output increased 19 percent over 1981. This year each peasant owns 700 jin of grain. Total agricultural income increased by 5 million yuan over 1981. Per capita income of commune members will reach 350 yuan, up 72 yuan over 1981. [Shenyang LIAONING RIBAO in Chinese 10 Nov 82 [no page given] SK]

CSO: 4007/67

END TO FOREST DESTRUCTION URGED

SK021023 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Dec 82

[Text] Recently, the regional people's government held a forum in Hohhot Municipality to implement the emergency directive of the CPC Central Committee and the State Council on stopping the destructive felling of trees.

The forum summed up experiences of all localities in stopping the evil practice of forest destruction and made plans for comprehensively accomplishing "three-fixed" forestry work, for conscientiously implementing the principles of the individual, collective and state planting trees simultaneously and for implementing the responsibility system of assigning tasks on a household basis among collective-owned forests.

The forum held: Our region has entered a new stage of developing forestry production and construction. By mid-November the region afforested over 7.9 million mu, setting the highest annual record, and there was a marked decline in the trend of destroying forests. Especially since implementing the emergency directive of the CPC Central Committee and the State Council on stopping the destructive felling of trees, all leagues and municipalities have taken immediate measures to go into action, and banners and counties have organized inspection groups to handle cases of forest destruction in a strict and timely manner and to deal blows at the criminal activity of destroying forests. At present, the region has basically stopped the evil practice of forest destruction.

The forum pointed out: We should thoroughly accomplish the "three-fixed" forestry work, stabilize fixed ownership of mountains and forests, delimit afforested areas among commune members and fix a responsibility system for forest production in the coming winter and spring. This is a basic measure of the CPC Central Committee and the State Council for protecting forests and developing forestry and a plan to last for generations for vigorously developing forestry.

Since last year, 31 banners and counties across the region have fulfilled the "three-fixed" forestry work. However, some localities only attended to fixing ownership and granting licenses to develop available wooded land but failed to delimit afforested areas among commune members and to formulate a responsibility system for forest production.

All localities should take the initiative in measures for firmly achieving the "three-fixed" forestry work.

The forum stressed: All forestry fronts should further emancipate their minds and soften their policies in order to implement the principles of the individual, collective and state planting trees simultaneously. The collective-owned forests should carry out the responsibility system of assigning tasks on a household basis.

In order to develop individual-owned forests, all localities must take swift measures for designating individual-owned afforested areas among commune members. Commune members should be given priority for planting trees in forests that are near villages and are good for management and afforestation.

The state and collectives should provide technical assistance, seeds and saplings for commune members and at the same time should focus on developing collective-owned afforested areas to bring the enthusiasm of the individual, collective and state into full play.

CSO: 4007/67

REGULATION ON GRASSLAND MANAGEMENT DISCUSSED

SK191042 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 Nov 82

[Text] In order to successfully manage, utilize, protect and build grasslands and solve the problem of an egalitarian way of using grasslands, the regional party committee recently gave notice to all leagues, municipalities, banners and counties urging them to implement the new grassland management regulation on a trial basis and pay close attention to the implementation in selected areas. The new grassland management regulation gives five explicit stipulations:

1. Grasslands are the basic means of production of animal husbandry, not wastelands. They are as important as farmlands for planting.

2. The ownership of the grasslands within the boundaries of this autonomous region is socialist ownership by the whole people, and socialist ownership by the collective for the present stage. The wild plant and animal resources of the grasslands, such as the water areas, forests and trees, reeds, [words indistinct] mushrooms and edible moss, belong to the units which own the grasslands unless they have been exceptionally assigned to be managed individually after approval by the people's governments at and above the banner or county level. The regional people's government authorizes the people's governments of all banner, counties, towns and suburban districts to issue grassland licenses. All units' ownership of grasslands is to be protected by this regulation from being encroached on by any other units or individuals. Units which own the grasslands may grant grassland utilization rights to grassroots production units and areas for grazing herds of livestock. The boundaries established at the time of liberation should be taken as the standard to define the boundaries between the communes within grasslands and those outside the grasslands. Boundaries established at the period of the cooperative movement should be taken as the standard to define the boundaries between communes within grasslands. Boundaries approved after legal procedures should be taken as the standard to define those between farms and production teams. Boundaries adjudicated according to law by the people's governments should be taken as the standard to define those of other categories. Unestablished boundaries should be decided on through discussions or adjudication. When deciding on the boundaries of grasslands, we should uphold the principles conducive to unity, animal husbandry and the interests of the minority people.

3. The policy of forbidding wasteland reclamation to protect livestock farms should be resolutely implemented and grassland reclamation should be strictly forbidden. Grasslands which should not have been reclaimed should be resolutely closed and afforested. Banner and county people's governments should fix reasonable grazing load according to the types of grasslands and their capacities so as to prevent grasslands from deteriorating and becoming sandy. As authorized by the central and regional authorities, all leagues, municipalities, banners and counties may designate in their own localities natural reservation areas to protect valuable, unusual and rare animal or plant resources or resources which have been seriously damaged and apply for an approval by the regional people's government. Any units or individuals should obtain approvals from the units which administer the grasslands and from the people's governments of banner, counties, towns and suburban districts before they lumber, gather or hunt in the grasslands. They should receive the supervision of local authorities, abide by law and discipline and pay grassland management fees according to regulations.

4. Units and individuals who distinguish themselves in conscientiously implementing this regulation and in grassland management, protection, utilization and construction should be encouraged morally and awarded materially. Those who violate the regulation should be criticized, educated or fined, should be made to pay compensation for economic losses, should have their illegally earned money or property confiscated or be investigated and be held responsible for the crimes in accordance with their offenses.

5. People's governments at all levels are responsible for implementing this regulation. They should authorize animal husbandry departments and grassland management departments to make arrangements for the implementation. League, municipal, banner and county people's governments may formulate detailed provisions for the implementation in line with the guidelines of the regulation and report to the regional people's congress standing committee for the record.

CSO: 4007/67

FURTHER RELAXING RESTRICTIONS URGED

SK021007 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Dec 82

[Text] According to our reporter (Liu Xiechun), Jirem League, Nei Monggol Autonomous Region, has made continuous efforts to eliminate the leftist influence in order to relax policy restrictions to invigorate the economy. Since the Third Plenary Session of the 11th CPC Central Committee, the economic situation of the league has become better and better. Despite having had natural disasters last year and this year, its grain output is still equal to the figure of the last 4 years and its oil-bearing seed output has scored a large-scale increase. The league has also steadily upgraded its livestock output and has scored a 1 million mu increase each year in afforestation and a 20 yuan increase this year in its per capita income over the 1981 figures.

In line with the demands set forth by the 12th CPC Congress, however, the speed in developing agriculture in the league is not satisfactory. The party's various policies on the economy have not been thoroughly implemented by some areas and in some fields. There are still the rigid leftist rules fettering the people's thinking. Through summing up experiences and lessons gained in this regard, the league CPC committee contended that only by further eliminating leftist thinking can we create a new situation in economic construction. Therefore, the league CPC committee put forward the following five tasks in an effort to further relax policy restrictions:

1. Continuous efforts should be made to improve production responsibility systems. The large scale assignment of responsibilities to each household should be expanded to a larger degree in rural areas. In developing agriculture, livestock, industry, sideline occupations and others, such responsibility systems may be adopted or regarded as guiding principles.

2. Efforts should be made to change the situation of concentrating on one undertaking only. By adopting joint ventures and attracting personal investment it is necessary to organize the rural people to develop various transport and service businesses.

3. Efforts should be made to relax the restrictions on developing domestic sideline occupations among commune members, who should be allowed to personally buy tractors for production or transportation. Urban people and technical personnel should be allowed to sign contracts for specialized production in agricultural and pastoral areas. Skilled craftsmen should be permitted to open private businesses and to recruit their assistants and apprentices.

4. Efforts should be made to grant afforestation land as much as possible to commune members so long as they have ability and desire to plant more trees. Through bidding, contracts may be signed with commune members for planting trees and grass on waste mountains and for developing fishery in useless rivers and water areas.

5. It is necessary to allow collectives and individuals to run commercial firms. The state-run units in urban areas may allow their work groups, staff and workers to independently purchase or sell commodities and to render repair service in rural areas. It is also necessary to allow individual households to carry out such business operations in rural areas. After the fulfillment of the state's procurement plan, all indigenous and special products except for grains may be privately sold in markets outside the league and the region.

CSO: 4007/67

CIRCULAR DISCUSSES RESPONSIBILITY SYSTEMS

SK061024 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Dec 82

[Text] On 30 November, the regional people's government issued an emergency circular on conscientiously grasping rural and pastoral work and urged all localities, in line with the guidelines of the 12th CPC Congress, to further sum up, perfect and implement various forms of production responsibility systems so as to apply scientific technology to develop agriculture, livestock farming and forestry and vigorously develop a diversified economy.

The emergency circular pointed out: Areas where the double contracting responsibility system is being implemented should not only focus on implementing systems of signing contracts to assume responsibility for certain cultivated land or certain production quotas, but should extend the contracting systems to various fields in a planned and step-by-step manner, such as developing forestry, barren hills, barren hillsides, water conservancy facilities, farming machinery, water areas, commune- and brigade-run enterprises, vegetable teams, and transport and service industries.

Collective economic units with higher unified management in which various systems of signing contracts for specialized production quotas are being implemented should improve the management of the collective economy to further eliminate egalitarianism in line with the wishes of the masses.

While giving full play to the advantages of unified management, we should pay attention to bringing into full play the system of signing contracts with households engaged in specialized production, household sideline production and some private sectors of the economy. We should never place excessive restrictions on commune members through unified management. Leading departments concerned should conscientiously help the masses consolidate, implement and perfect the responsibility system in line with the wishes of the masses.

Urgent efforts should be made to solve the problems of "everybody eating from the same big pot" in pastoral lands. We should fulfill the three-fixed forestry work in the coming winter and spring.

The circular stressed: From now on, we should focus on widely applying scientific technology in agriculture, livestock harvests. Departments of agriculture, animal husbandry and forestry at all levels throughout the region and scientific research units should organize forces to sort out all achievements in scientific research and to arrange them by categories. We should concentrate on widely popularizing those scientific research achievements that have been tested and proved to be noticeably beneficial to increasing agricultural, forestry and livestock production.

By popularizing the responsibility system of linking technology with output, scientific and technical personnel engaged in agriculture, livestock farming and forestry can concentrate on the development of production. From now on, we should assess, reward and provide material conditions for scientific and technical personnel in accordance with their achievements in applying technology and production.

Outstanding scientific and technical personnel should vigorously be promoted and be given excellent material conditions. The wage system should be based on scales. Those who accomplish nothing or score no achievements for several years should be transferred to other working posts.

The emergency circular of the regional people's government stressed: Efforts should be made to develop a diversified economy in order to increase the income of the broad masses of peasants and herdsmen and bring about prosperity as soon as possible.

Along with the development of animal husbandry, all localities should develop medium-sized and small feed-processing industries on a mass basis and make overall arrangements for those households engaged in specialized production in order to develop specialized production in rural and pastoral areas.

We should help specialized households and key households develop the diversified economy. We should provide funds and give material assistance to develop cropping, breeding and processing industries and general service trades. Specialized households and key households should work together with the broad masses of peasants and herdsmen to bring about prosperity.

CSO: 4007/67

NEI MONGGOL REPORTS RECORD LIVESTOCK INCREASE

OW091250 Beijing XINHUA in English 1141 GMT 9 Dec 82

[Text] Beijing, 9 Dec (XINHUA)--A record increase of more than 11.6 million head of livestock has been registered this year in Inner Mongolia Autonomous Region, north China.

This was disclosed by Wang Duo, secretary of the Inner Mongolia Regional Committee of the Chinese Communist Party, at panel discussions during the current session of the National People's Congress.

The achievement was scored in spite of serious drought and heavy snow, he said.

He said the number of livestock in the region now totals more than 47.21 million head. Fine-strain sheep accounts for 52 percent of the total number of sheep. The region has already overfulfilled the livestock purchasing plan of the state for the year.

Wang Duo attributed the achievement to the pursuance of a series of economic policies that suit the conditions of the region. They include:

--Readjusting the proportion between agriculture and animal husbandry by laying greater stress on the latter, raising the purchasing prices of some animal products, reducing or exempting taxes on animal husbandry for a certain period of time, thus greatly encouraging the peasants and herdsmen to develop animal husbandry.

--Introducing a responsibility system in production, expanding side-line occupations and restoring private plots, animals and grassland for peasants and herdsmen. Statistics show that private animals in the pastoral areas has reached 8.44 million head, or 30 percent of the total number of livestock in these areas.

--Strengthening pasture development. Last year, the region improved the conditions of more than 1.08 million hectares of natural grassland and stored up 3.3 million tons of grass, which has helped the animals tide over the bitter winter.

Inner Mongolia ranks first in the country in the area of grassland and the number of livestock. Thanks to the development of animal husbandry, the per capita income of the herdsmen in pastoral areas reached 360 yuan in 1981. More is expected this year.

Wang Duo is confident that living standards will continue to improve with state assistance as provided for in the new constitution and in Premier Zhao Ziyang's report on China's Sixth Five-Year Plan.

CSO: 4020/31

BRIEFS

AUTUMN AFFORESTATION--As of 8 November, Nei Monggol Region had afforested 1,219,000 mu, cultivated 5,400 mu of saplings, planted 2.47 million mu of trees in rural areas and leveled 300,000 mu of land for next year's afforestation. The proportion of per capita afforested area by commune members increased from 19.8 percent in spring to 25.8 percent in autumn. [SK150429 Hohhot Nei Monggol Regional Service in Mandarin 2300 GMT 13 Nov 82 SK]

ANIMAL-RAISING HOUSEHOLDS--Ju Ud League, Nei Monngol Autonomous Region, has scored marked achievements in developing livestock-raising households. As of early November 1982, the 11 counties and banners of the league had over 16,600 households that had signed a contract for raising specific livestock. [SK032349 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Dec 82 SK]

GRAIN PROCUREMENT--As of 25 November, Hulun Buir League, Nei Monggol Region, had stored 318 million jin of grain and soybeans, overfulfilling the annual procurement tasks. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 30 Nov 82 SK]

XILIN GOL LEAGUE CROP STORAGE--As of 30 November, Xilin Gol League in Nei Monggol Autonomous Region had overfulfilled its grain and oil-bearing crops procurement plans by 2.5 and 20.5 percent respectively. By the end of November, the league had procured 34.82 million jin more of grain and 21.5 million jin more of oil-bearing crops than the corresponding 1981 period. [SK042253 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 2 Dec 82 SK]

BEET PROCUREMENT--As of early November, Nei Monggol Region procured 1.06 million tons of beets, topping the highest level in history. In 1982, the total beet output of our region is estimated to reach 1.1 million tons, a 30-percent increase over 1981. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 17 Nov 82 SK]

CROP STORAGE--Thanks to the institution of the responsibility system in production, Nei Monggol Region's total grain yield has set a record this year. By 15 November, the region had stored 1.3 billion jin of grain, an increase of 550 million jin over the corresponding 1981 period. Of them, 480 million jin were wheat and 530 million jin were oil-bearing seeds. [SK220134 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 20 Nov 82 SK]

BAYANNUR LEAGUE GRAIN PROCUREMENT--At present, Bayannur League of Nei Monggol Region has overfulfilled its annual grain procurement task by 1.3 percent. As of 15 November, the league sold over 248 million jin of grain to the state, more than an 80 million jin increase over the corresponding 1981 period. The league also procured 199 million jin of wheat, overfulfilling its procurement plan by 65.9 percent. [SK210111 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 Nov 82 SK]

ULANQAB LEAGUE GRAIN PROCUREMENT--Ulanqab League, Nei Monggol Region, overfulfilled its annual grain procurement task as of 12 November. This year the league's total grain output will reach 1.9 billion jin, up 10 percent over 1981. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Nov 82 SK]

XILIN GOL LEAGUE OIL-BEARING CROPS--Xilin Gol League of Nei Monggol reaped a bumper harvest from its 518,000 mu of oil-bearing crops this year. The total output was 32.77 million jin, 150 percent more than 1981. So far the league has sold 13.63 million jin to the state, overfulfilling by 4.8 percent its procurement quota. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 10 Nov 82 SK]

XINGAN LEAGUE AFFORESTATION--Xingan League in Nei Monggol afforested 271,000 mu this year despite serious drought, overfulfilling by 14.6 percent the state-assigned annual afforestation quota. [SK120804 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 10 Nov 82 SK]

GRAIN OUTPUT--Thanks to the institution of the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, Ju Ud League, Nei Monggol Region, has reaped bumper harvests in all crops this year. Total grain output has increased to 2.2 billion jin this year as against 1.7 billion jin in 1981. In addition, over 92 percent of production teams in the league have implemented the above-mentioned responsibility systems. [SK270235 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 24 Nov 82 SK]

HOHHOT MUNICIPALITY AGRICULTURE--Hohhot Municipality, Nei Monggol Region, has overfulfilled the annual procurement tasks for grain and oil-bearing crops. As of 21 November, the municipality stored up 61.07 million jin of grain, up 18.5 percent over the corresponding 1981 period, and 6.23 million jin of oil-bearing crops, up 58.9 percent. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 24 Nov 82 SK]

NEI MONGGOL SUGAR BEET--Hohhot, 29 Oct (XINHUA)--Nineteen sugar refineries in China's Inner Mongolia Autonomous REgion have started production and expect to have a record beet sugar output of 120,-00 tons, 20 percent more than in the last sugar refining season, local authorities reported. This year's output of beets from 66,600 hectares planted to the crop is more than 1 million tons. The output is the highest in the 30 years of beet growing in Inner Mongolia, one of China's major beet sugar producers. The People's Government of Inner Mongolia allocated 80 million yuan to expand and transform sugar refineries in the region. Thus the daily capacity of refining beet has risen from 7,000 tons to 10,000 tons. The beet output was only 380,000 tons in 1978. [Text] [OW301433 Beijing XINHUA in English 0713 GMT 29 Oct 82]

NEI MONGGOL DAIRY PRODUCTION--Hohhot, 30 Oct (XINHUA)--Dairy farms in the Inner Mongolia Autonomous Region turned out 7,600 tons of dairy products in 1982's first 9 months, 50 percent more than the same 1981 period, according to the regional government. The local government has over the past few years encouraged individual herdsmen and collective farms to raise more milch cows by providing interest-free loans and subsidized concentrated feed. This has led to a big increase of cows. Today farmers in the Hulun Buir League alone own 22,000 cows. Fresh milk sold to the state by individual herdsmen and peasants accounted for over 50 percent of the league's total. More creameries in the region have been expanded and revamped to meet the increased milk output and raise the quality of the dairy products. In the first 4 months of this year, fine quality milk, cream, lactose and casein took up 95 percent of the regional total production. [Text] [Beijing XINHUA in English 1300 ,MT 30 Oct 82 OW]

CSO: 4020/31

BRIEFS

BEET, SILKWORM PRODUCTION--Beijing, 25 Nov (XINHUA)--A record beet harvest of 150,000 tons was reaped in Ningxia Hui Autonomous Region this year, an increase of 2.5 times over last year, according to the regional agricultural department. The region expanded areas grown to sugar beet from nearly 3,000 hectares to about 8,500 hectares and also provided improved seed varieties for the peasants. Agrotechnicians helped by giving advice on scientific farming. Jiangsu Province has harvested 45,500 tons of silkworm cocoons this year, 13 percent more than last year, the provincial agricultural department said. Jiangsu, one of China's major cocoon producers, this year increased mulberry farms by 18,600 hectares. [Text] [Beijing XINHUA in English 1121 GMT 25 Nov 82 OW]

CSO: 4020/31

MEETING ON DEVELOPING ANIMAL HUSBANDRY HELD

HK240719 Xining Qinghai Provincial Service in Mandarin 1100 GMT 23 Nov 82

[Summary] An 8-day meeting held by the Qinghai Provincial People's Government for heads of prefectures and counties in pastoral areas ended in Xining on 20 November. Comrade Song Lin, deputy secretary of the provincial CPC committee and vice governor of the province spoke at the meeting. Vice Governor Comrade Ga Bulong delivered a report on developing animal husbandry at a good pace. During the meeting, leading comrades of the provincial CPC committee listened to reports and made directives on seven issues, namely the study of the 12th Party Congress documents, work style, production responsibility system in livestock breeding, the building of grasslands, evolving new breeds, cadres and religion.

The meeting pointed out: "Since the 3d Plenary Session, the general situation in pastoral areas is good, but the pastoral industry in our province is still in a state of slow development, low standard and instability. Compared with the pastoral areas in other provinces, we lag far behind in the obtaining of better economic returns. The reason is that not much improvement has been made in production conditions and ranges are not well managed and maintained and have even been badly damaged. If no prompt improvement is made in production conditions and the building of ranges, then neither the quantity nor the quality of livestock can be improved, nor can the present situation be maintained."

When discussing the construction of ranges in the next 3 years, the meeting requested that the fenced grassland area be expanded from the present 7 million mu to 9 million mu in 1985 and the artificial grassland area, from 2 million mu to 3 million mu in 1985. In addition, efforts will be made to solve the problem of drinking water for people and animals in the (Dong Chun) grassland area and to expand the usuable grassland area.

CSO: 4007/67

COMMENTARY STRESSES LIVESTOCK TURNOVER

HK240725 Xining Qinghai Provincial Service in Mandarin 1100 GMT 23 Nov 82

[Station commentary: "Speed Up Livestock Turnover, Raise Commodity Rate of Animal Husbandry"]

[Excerpts] In promoting commodity economy in our province's pastoral areas a problem merits our attention, in particular the attention of leaders at various levels. The problem is that some of our cadres and commune members begrudge selling their livestock and like to keep them as their own property. They are unwilling to sell the livestock which should be sold. Consequently, this livestock consumes a certain amount of forage for nothing. If natural disasters hit them, then great losses will ensue.

The modern pastoral industry must be developed for a high commodity rate. If the quantity of livestock increases but the commodity rate is not raised, then neither the state nor herdsmen will benefit. In discussing the promotion of commodity production in pastoral areas, we should grasp the key point of speeding up livestock turnover. Concentrating on this point, we will be able to work steadily and make solid progress in ironing out all contradictions in this field. In considering problems such as the building and management of grasslands and evolving new breeds, we must aim at speeding up livestock turnover. Of course, in our efforts to raise the commodity rate, we must look ahead and back. We must take account of immediate and long-term interests. Not only should we improve economic results at present, but also we should think of expanded production in future. The commodity rate of livestock in our province is lower than that in other provinces. This is mainly due to the fact that ranges are not well built and managed so that the rate of livestock turnover is low. To raise the commodity rate, leaders should first and foremost change their guiding thinking, attach importance to commodity production, pool wisdom and efforts of everyone to promote livestock turnover and acquire proficiency in building grasslands and in the scientific rearing of animals.

CSO: 4007/67

BRIEFS

CATTLE EXPORTS--The number of living cattle which Qinghai Province exports is on the increase. Since the beginning of last year, the province has exported some 18,400 head of living cattle to Hong Kong and earned some $4.4 million of foreign exchange for the state. [Xining Qinghai Provincial Service in Mandarin 1100 GMT 19 Nov 82 HK]

CSO: 4007/67

WINTER WHEAT MANAGEMENT CONFERENCE HELD

HK160931 Xian Shaanxi Provincial Service in Mandarin 1130 GMT 15 Nov 82

[Summary] The provincial CPC committee and government convened a winter wheat field management experience exchange conference in Qianxian County, which closed yesterday morning. Vice Governor Bai Jinian delivered a speech at the closing meeting and put forward three points:

"1. We should make the masses of people fully understand the harm of close planting and luxurious growth of seedlings on wheat land and further launch a campaign on winter wheat field management.

"2. Technically, the masses must be instructed in various categories and different measures in accordance with expert instructions and in line with local conditions.

"3. The method of on-the-spot displays should be widely applied so that the wheat field management system is popularized among all households and is converted into the conscious action of the peasants."

During the conference, wheat experts put forward their views on sparse seedlings and close seedlings after a drop in temperature:

"We should give scientific explanations to the peasants on sparse seedlings and on putting close seedlings under control. This is to ensure that wheat seedlings live through the winter, and that the sparse seedling problem can be solved easily, for an increasing number of peasants are ready to believe science. Therefore, frozen wheat field management of luxurious growth of seedlings in northern parts of the province may be temporarily postponed. The temperature in the Guangdong area is probably rising again and wheat plants seem to be growing before mid-December. So the field management of close planting and the luxurious growth of seedlings must not be relaxed because of a drop in temperature. We must seize the favorable opportunity provided before the land freezes and strive to do good job in green manuring."

CSO: 4007/67

BRIEFS

JOINT ENTERPRISES COMPANY--The Shaanxi Provincial Agricultural Reclamation and Agricultural-Industrial-Commercial Joint Enterprises Company started recently. This company runs 12 enterprises, which include agriculture, animal husbandry, industry, commerce and supply and marketing, and 6 units, which include scientific research, culture and education and public health. The aim of the company is to take part in the business activities organized by the China Agricultural Reclamation and Agricultural-Industrial-Commercial Joint Enterprises Company, to run agricultural-industrial-commercial comprehensive business, to establish economic links with the provincial agricultural reclamation units and to mediate between commerce and supply and marketing. [Xian Shaanxi Provincial Service in Mandarin 1130 GMT 15 Nov 82 HK]

BUMPER HARVEST--Shaanxi Province has reaped a bumper agricultural harvest this year. Total output of grain for the whole year may amount to 17.86 billion jin, 19 percent more than last year. Of it, total output of summer grain was 8.86 billion jin, the highest record since the founding of our country. Although the area sown with autumn grain is some 1 million mu less than last year and there was more rain at the final stage, it is estimated that total output of autumn grain will be about 9 million jin. Total output of cotton may exceed 2 million dan, 60 percent more than last year. Output of oil-bearing crops, mulberries, tea, flue-cured tobacco, sugar and draft cattle this year was more than last year. [HK081409 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 7 Nov 82 HK]

CSO: 4007/67

SHANDONG REAPS GOOD GRAIN, COTTON HARVESTS

OW100835 Beijing XINHUA in English 1148 GMT 9 Dec 82

[Text] Jinan, 9 Dec (XINHUA)--Shandong Province, which attracts nationwide attention for becoming China's number one cotton producer, this year reaped good harvests of both grain and cotton, according to the provincial agricultural department.

The 1982 cotton output was about 950,000 tons, more than one-fourth of China's total and 40 percent more than 1981, the department said.

This year, the area under grain was reduced by 8 percent or 530,000 hectares, which were largely given over to cotton. but grain output reached more than 23.5 million tons, still higher than last year.

Cotton production expanded rapidly in recent years. The 1979 output was only 166,500 tons. The 1980 output jumped to 537,000 tons, triple 1979's.

Other cash crops, forestry, animal husbandry, and fishery and other side-line occupations also made headway.

The province registered a 9 percent growth in agricultural output value which stood at 22,900 million yuan this year. Agricultural output value rose 7.3 percent annually between 1979 and 1981.

Per capita annual income of the province's 70 million peasants is expected to reach more than 150 yuan.

The province suffered a serious drought last spring. The provincial government allocated more than 58 million yuan for irrigation projects and facilities.

CSO: 4020/31

LETTER ON REALISTIC COMPUTATION OF INCOME

SK261256 Jinan DAZHONG RIBAO in Chinese 12 Nov 82 p 3

[Letter by Yu Yongbao of Wubei commune, Laixi County: "Realistic Computation of Per Capita Income"]

[Text] The annual autumn income distribution work has begun. The masses are eager to get their share of the good harvests and enjoy the fruits of the policy. Therefore, it is incumbent on cadres at all levels to work out a distribution plan in earnest, correctly handle the relationship between the state, collective and individual and compute per capita income in a practical and realistic manner.

In previous income distributions, some cadres, influenced by "leftist" ideas and blinded by the desire to overstate per capita income, more often than not exaggerated achievements and made false reports on output figures, giving rise to the phenomenon of false accounts and deceptive per capita distribution figures. Such a practice did great damage to the interests of the peasants, imperiled the collective economy and left many evil consequences.

As far as I know, the practice of concentrating on per capita income alone still prevailed to a fair extend as late as last year. To get a round number of per capita income figure such as 180 yuan, some production teams included the grains and vegetables produced on the commune members' private plots in calculating their per capita income. Rabbits purchased by commune members from the market, as well as chickens, ducks and geese raised by them, were evaluated in terms of money and, with their purchasing costs not deducted, counted as their per capita income. Consequently, what the commune members got were "dud checks." A production brigade made it by hook or by crook in achieving a per capita distribution of 200 yuan. However, immediately after the distribution the brigade found itself totally wanting in production funds and had to procure loans to finance spring farming. A few production teams went so far as to borrow money from banks for autumn distributions. As a result, their liabilities increased, the public accumulation dropped and the collective economy became a mere skeleton.

Why did the abovementioned phenomenon arise? First, a few vain [word indistinct] cadres wanted to gain a "reputation" by telling lies and enhance their social status by increasing "per capita income." Second, some leadership did not pay attention to investigation and research and relied solely on the reported figures to evaluate whether the job was well done and whether the achievements were big or small. This inspired people to resort to deception and unscrupulously overstate per capita income.

Onesided, blinded pursuit of per capita income is very harmful. Many of us have suffered from the bitter consequences of the "practice of boasting and exaggeration" prevailing in the late 1950s. During the "Cultural Revolution," Lin Biao and Jiang Qing inflicted wounds on the country, the party and the people by means of boasts, lies and deceptions. The memory is still deep. We must earnestly bear in mind this lesson of history.

Everyone of us communist party members and cadres should be an honest person, honest in word and in deed. We should always respect the truth, set the interests of the people and the party above everything else and report our situation as it is to the higher level. It is hoped that leadership at all levels will improve its style of work and conduct meticulous investigation and research. It is necessary to work out this year's autumn distribution plan by seeking truth from facts and honestly report every figure. This is also an important aspect of conscientiously improving the party's workstyle.

CSO: 4007/67

USING RURAL ENERGY RESOURCES URGED

SK211209 Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 Nov 82

[Station commentary: "Accelerate the Exploitation and Utilization of Rural Energy Resources"]

[Text] Energy poses a big problem in the modernization of agriculture. In his report to the 12th CPC Congress Comrade Hu Yaobang regarded the energy problem as a strategic priority for economic development. Rational exploitation and utilization of rural energy resources is an important task facing us. At present waste of rural energy resources is colossal. Stalks are usually burned as fuel without being fully utilized. Because compost made of stalks was not returned to the farmland to regulate the chemical and physical functions of the soil and increase the soil's organic matter, land productivity dropped and production was adversely affected. Meanwhile, with the decrease in farmland and the increase in the demands for animal feed, it becomes increasingly difficult to solve the rural energy shortage by relying on [word indistinct] and stalks alone. Therefore, a solution to the rural energy problem is indeed an important undertaking that cannot be neglected.

To solve this problem we should, first of all, accelerate the exploitation of energy resources and make full use of biological energy. Being regenerative energy, biological energy requires little investment, yields quick results and has multiple uses. Take marsh gas. It can be used for cooking and illuminating and its waste residue can be used as fertilizer. Now the province has 600,000 marsh gas pits. If we accelerate the development of these pits and pay adequate attention to quality, by the end of the century we will have built 14 million marsh gas pits which will provide 50 percent of the energy supplies needed by rural areas.

Second, we should develop fuel forests. Fuel forests, after being planted, can be used for many years. Besides this, rural areas should also actively study and develop new energy resources. Our province abounds with hydropower potentials, solar energy, wind power and tidal power. The hydropower resources alone, if converted into electricity, amount to 440,000 kw. Many localities in the countryside have begun to utilize small-scale hydropower resources and solar energy and have opened up broad horizons for studying and developing new energy resources.

In solving the rural energy problem, efforts should be made to combine exploitation with conservation and pay attention to improving economic efficiency. We hope that industrial departments will provide rural areas more advanced electricity- and coal-saving equipment and machinery for utilizing rural energy sources. Commune and brigade-run enterprises should develop more products which require low energy consumption and whose production does not require them to scramble for raw materials with large enterprises. Provided we combine various methods, increase energy resources and reduce consumption, we stand a very good chance of success in solving the rural energy problem.

CSO: 4007/67

SHANDONG RADIO ON STOPPING BUILDING HOUSES ON FARMLAND

SK200947 Jinan Shandong Provincial Service in Mandarin 2300 GMT 19 Nov 82

[Station commentary: "Resolutely Stop the Trend of Building Houses on Cultivated Land"]

[Excerpts] Recently the secretariat of the CPC Central Committee and the State Council called on all localities to bring the situation of building houses on cultivated land under strict control and resolutely stop the trend that cadres take the lead in building houses on cultivated land.

In order to implement the guidelines of the directive, the provincial construction commission held a special meeting to work out specific measures urging all localities to stop rural housing construction from overrunning farmland in the next few years. A conscientious investigation should be conducted on rural housing construction. Those units and individuals that arbitrarily build houses on cultivated land should be dealt with severely.

At present we should attach prime importance to stopping the unhealthy trend of building houses on rural cultivated land. All relevant departments throughout the province and the broad masses of the people and cadres in rural areas should be mobilized immediately to resolutely put an end to activities that overrun farmland for housing construction, that violate the relevant regulations on land for housing construction formulated by the state and the provincial, prefectural and county governments at all levels. In line with the demands of the party Central Committee, those units and individuals that violate the regulations should be severely investigated and handled.

Following thoroughgoing and painstaking ideological and organizational work, we should widely publicize the relevant policies of the state and the stipulations of the law among cadres and the masses and formulate realistic plans for rural housing construction with a view to enthusiastically helping peasants solve problems in housing construction.

So long as leaders at all levels attach great importance to conscientiously economizing every inch of land, and party-member cadres set examples for cadres and the masses in this goal, the unhealthy trend of building houses on farmland will certainly be stopped.

CSO: 4007/67

BAI RUBING PARTICIPATES IN AFFORESTATION LABOR

SK140414 Jinan Shandong Provincial Service in Mandarin 2300 GMT 14 Nov 82

[Excerpts] On 13 November, over 500,000 civilians and armymen in the provincial capital Jinan participated in the communist voluntary labor day activities to carry out winter afforestation and environmental sanitation work. They heightened their spirit, and worked together with one heart to plant 1,500 trees, sweep some 3,000 streets and lanes and remove over 10,000 tons of trash in a day, thus cleaning up some 3,000 unsanitary places and enabling the city to have a great change in appearance.

Responsible comrades of the provincial CPC committee, the provincial people's congress, the provincial government and the provincial CPPCC committee, including Bai Rubing, Su Yiran, Zhao Lin, Gao Qiyun, Li Zichao, Wang Jinshan, Xu Leijiang, Zhao Feng, Lin Ping, Chen Lei, Yang Jieren, Wang Baomin, Song Yimin, Liu Peng, Liu Zhongqian, Ding Fangming, Wang Zhe and Zhang Weicen; responsible comrades of the Jinan PLA units including Chen Renhong, (Zhang Feng), (Li Suiying), (Pan Qiqi), (Xu Zhongyu) and (Xu Chunyang), responsible comrades of Jinan Municipality including Wei Jianyi, (Zhang Jun), (Li Ke), (Chen Baoxi) and (Xu Zhenjie), led some 1,500 office cadres and PLA commanders and fighters in afforestation labor at north (Dongyi) road in the eastern suburban area of Jinan Municipality on the morning of 13 November.

The broad masses of cadres from various municipal organizations, PLA units stationed locally, plants, schools and neighborhoods also participated in environmental sanitation work in the designated areas where the sanitation responsibilities were fixed by contract. Some 80 department and bureau directors of provincial-level organs led office cadres in cleanups of their office surroundings. Some 10,000 commanders and fighters of the Jinan PLA units also took to the streets to remove trash and to participate in serve-the-people activities along with the masses.

CSO: 4007/67

SHANDONG

BRIEFS

DIVERSION WORKS--Shandong Province has successfully completed the project to divert Huanghe water to Tianjin. The daily amount of water delivered to Tianjin reaches over 8 million cubic meters. [SK170225 Jinan Shandong Provincial Service in Mandarin 2300 GMT 15 Nov 82 SK]

COTTON OUTPUT--Jinan, 26 Oct (XINHUA)--Shandong reaps good cotton harvests this year with cotton output increasing by a big margin over 1981 production. By 25 October, the province procured 10,390,000 dan of new cotton from the producers and overfulfilled the procurement plan by 1,230,000 dan. This year's cotton procurement was some 5 million dan larger than procurement in the same period in 1981. [OW150209 Beijing XINHUA Domestic Service in Chinese 1131 GMT 26 Oct 82 OW]

GINNED COTTON PROCUREMENT--As of 7 November, Shandong Province had procured 13,218,000 dan of ginned cotton, a 168,000 dan increase over 1981. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 8 Nov 82 SK]

COTTON HARVEST--It is estimated that this year Shandong Province will harvest 18 million dan of cotton on 20 million mu of lands, an increase of over 5 million dan over 1981. As of 10 October, the province had procured 9.22 million dan of cotton, a 95.6 percent increase over that of the corresponding 1982 period [as printed]. [Jinan DAZHONG RIBAO in Chinese 22 Oct 82 p 1 SK]

AGRICULTURAL PRODUCTION--Since the third plenum, Shandong Province's Dezhou Prefecture has scored achievements in agricultural production. Comparing 1978 with 1981, the agricultural income of the prefecture showed a 1.3-fold increase and reached 1,326 million yuan, grain output increased from 3,025 million to 3,423 million jin, cotton output increased from 398,000 to 3,390,000 dan and oil crops rose from 22 million to 43 million jin. [SK101127 Jinan DAZHONG RIBAO in Chinese 19 Oct 82 p 1 SK]

GRAIN, PEANUT OUTPUTS--Taian Prefecture, Shandong Province, has successfully fulfilled its 1982 grain and peanut procurement plans. By 10 November, the prefecture had procured over 470 million jin of grain and over 29 million jin of shelled peanuts and had them stored well. The prefecture prefulfilled its grain procurement plan by over 20 days and peanut plan, by over 1 month. [SK160142 Jinan Shandong Provincial Service in Mandarin 2300 GMT 14 Nov 82 SK]

COTTON, GRAIN HARVESTS--In 1982, Shandong Province's Liaocheng Prefecture reaped bumper cotton harvests. It is expected that the prefecture will harvest 4.5 million dan of cotton this year, an increase of about 1 million dan over 1981. As of 21 November, the prefecture had sold 3.66 million dan of ginned cotton. This year, the prefecture harvested 2,580 million jin of grain, showing an increase of 110 million jin over that of 1981. This year, the prefecture earned 560 million yuan from diversified economy, a 100-percent increase over 1978. The prefecture's annual agricultural output value in 1982 reached 1,820 million yuan, an increase of more than 200 percent over 1978. [SK270711 Jinan Shandong Provincial Service in Mandarin 2300 GMT 25 Nov 82 SK]

SUBMARINE CABLE--The first 35,000-volt submarine cable of Shandong Province was completed and went into operation on 31 October. The submarine cable is between Penglai and Changdao counties, the latter being an island county that is the last county in the province to be merged into the Shandong power grid. The four-wire cable is 11 km long with a total weight of 660 tons. It was especially designed by the Shanghai cable plant for transmitting electricity to offshore islands of our country. [Jinan DAZHONG RIBAO in Chinese 12 Nov 82 p 1 SK]

GRAIN HARVEST--This year, Shandong Province harvested 47 billion jin of grain, a 1 billion jin increase over 1981. [SK050340 Jinan Shandong Provincial Service in Mandarin 2300 GMT 3 Dec 82 SK]

LINQING COUNTY COTTON HARVEST--Linqing County, Shandong Province, has reaped a bumper harvest on its 500,000 mu of cotton fields with per-mu yield reaching 130 jin and total output 650,000 dan, a record. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 5 Dec 82 SK]

SHANDONG AFFORESTATION PROGRESS--Jinan, 7 Nov (XINHUA)--The spring-summer tree-planting drive this year has added to Shandong Province more than 48,000 hectares of afforested hilly land, 28,000 hectares of nurseries, 210 million trees along roadsides and around houses and 165,000 hectares of windbreaks bordering fields, according to a recent provincial forestry conference. The province now has a total of 1.4 million hectares of afforested land, 2.4 million hectares of farmland shelter belts, and 480,000 hectares interplanted with date and tung-oil trees, in addition to 240,000 hectares of fruit trees. The afforestation campaign over the past years has increased the forest cover in the province to 9.2 percent as against 1.9 percent some thirty years ago. The three have not only diminished soil erosion and provided fruits and fuel, but also increased provincial timber reserves to 26 million cubic meters. [Text] [Beijing XINHUA in English 0736 GMT 7 Nov 82 OW]

CSO: 4020/31

URGENT MEETING HELD ON FOREST DESTRUCTION

HK130526 Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 12 Nov 82

[Summary] The Shanxi Provincial People's Government recently held an urgent conference in Taiyuan on curbing indiscriminate lumbering. The meeting pointed out: The evil wind of indiscriminate lumbering has been curbed in some places in the province in the past 2 years. However, in many places it has never been arrested. This particularly applies to Jishan, Fangshan, Shenchi, Fanshi and Hongtong counties, where forest destruction has tended to spread and develop.

The problems aired at this meeting showed: "Large tracts of state forest have been seized and cut down in these places. In some places there is not one tree left. Apart from brazenly seizing and looting the forests, some people even savagely beat up forestry protection and public security personnel, heaving in an extremely arrogant fashion."

The meeting pointed out: "The leading cadres in these counties have long lacked sufficient understanding of the gravity of indiscriminate lumbering there and have paid no attention to it. Some have even protected and connived at those who engage in it. In addition the law enforcement departments there have failed to enforce the law. In particular, they have failed to effectively handle certain major and important cases. For instance the instance of tree-fellers in Jishan County beating up Xiangning County forestry protection and public security personnel, which occurred in April, was not handled for a long time. In counties where some cases have been dealt with, only the ordinary masses and not the grassroots cadres have been punished. As a result, many grassroots cadres have become still more bold in directing or personally leading people up the mountains to engage in indiscriminate lumbering. In addition, certain forestry management departments have failed to carry out regulations and engaged in embezzlement. For instance, the Fangshan County Forestry Bureau has long engaged in illegal activities in lumbering, sales, transport and so on. This has intensified forest destruction."

Vice Governor Wu Guangtang stressed at the meeting: "We must seriously implement the urgent instructions of the Central Committee and State Council and immediately arrest the destruction of forests. Specifically, the whole party must get mobilized to take comprehensive measures to deal with the problem. In particular, the county party and government leaders must take the lead in implementing the spirit of the urgent central instructions and mobilize the forces of all sectors to publicize them deeply and extensively among the masses." It is essential to cultivate an excellent social mood of planting, cherishing and protecting trees. Appropriate punishment must be meted out to units and individuals engaged in indiscriminate lumbering. The management departments must improve and systematize their work. Party and government leaders must take concrete and effective steps to immediately curb the evil trend of forest destruction.

CSO: 4007/67

WATER, SOIL CONSERVATION URGED

SK071115 Taiyuan SHANXI RIBAO in Chinese 14 Nov 82 p 1

[Commentator's article: "The Lifeblood of Mountainous Area Construction"]

[Excerpts] In our province, 60 percent of the land suffers from soil erosion. In eroded areas, only by making consistent efforts in water and soil conservation to protect soil, fertility and water, can agriculture, forestry, animal husbandry and sideline production be greatly developed and culture, education, public health and transportation be promoted. Water and soil conservation is the lifeblood of economic development in mountainous areas and is the most important capital construction in these areas.

The purpose of checking soil erosion is to properly utilize water and soil resources and make land yield economic benefits. In view of our current actual situation, we should emphasize two tasks in order to achieve a good ecological cycle in our province's vast mountainous areas within a short period of time. First, we should deeply turn up the soil and improve land through farmland improvement projects, engage in scientific farming and turn our farmland into high- and stable-yield farmland so as to guarantee grain production. Second, we should sign various specialized contracts for improving rivulet basins and, in line with specific local conditions, develop diversified production, such as forestry, fruit, mulberry, tussah cocoon and medicinal herb production, plaiting industry and breeding so as to promote water and soil conservation work and enable mountainous areas to become prosperous at an early date.

Water and soil conservation is a great task for improving mountains and rivers, stopping poverty, achieving prosperity and benefiting the coming generations. All our party committees and governments should regard this task as an important component of mountainous area construction, further emancipate their minds, do their work boldly, fully arouse the enthusiasm of the masses of peasants, organize and coordinate financial, material and manpower resources of all departments and create a new situation in water and soil conservation work.

CSO: 4007/67

SHANXI

BRIEFS

YANBEI PREFECTURE FARM OUTPUT--Yanbei Prefecture, Shanxi Province, had an all-round good harvest of its 10 million mu of crops. Total grain output topped 2 billion jin, up 32.6 percent over the good harvest year of 1981. Output in four of the prefecture's 12 counties--Ying, Suo, Huiyuan and Yanggao--surpassed 200 million jin. Output of the prefecture's 1.27 million mu of oil-bearing crops was 116.54 million jin, an increase of 97 percent over the best amount on record. Some 164,000 tons of sugarbeets were reaped on 130,000 mu of land, up 72 percent over 1981. The prefecture's income from collective agriculture is expected to reach 490 million yuan, up 53 percent over 1981; per capita distribution for the collectives is expected to be 143 yuan, an increase of 65 yuan over 1981. [SK210114 Taiyuan SHANXI RIBAO in Chinese 28 Oct 82 p 1 SK]

HIGHWAY CONSTRUCTION--Over the past 3 years Shanxi Province, in addition to arterials, has had 1,890 km of highways built by counties and communes, of which 579 km are up to the standards of fourth-grade highways. Some 280 km of asphalt roads, 75 large and medium-sized bridges with a total length of 3,906 meters and 14 tunnels with a total length of 1,637 meters have been constructed in that period. The province's 1982 plan for rebuilding 1,875 km of highways has by and large been completed. The plan for constructing 21 large and medium-sized bridges with a total length of 1,990 meters has been virtually completed. [Taiyuan SHANXI RIBAO in Chinese 29 Oct 82 p 2 SK]

JINNANDONG PREFECTURE HIGHWAY CONSTRUCTION--Jinnandong Prefecture, in Shanxi Province, has actively mobilized people in the prefecture to build highways to improve traffic in mountainous areas. In the past year or so, construction on 118 highways with a total length of 1,248 km has begun, of which 85, with a total length of 1,004 km, have been completed and open to traffic. [Taiyuan SHANXI RIBAO in Chinese 29 Oct 82 p 2 SK]

SHANXI COTTON PROCUREMENT--By 25 October Shanxi Province had procured 547,000 dan of ginned cotton, fulfilling 42 percent of the plan. [Taiyuan SHANXI RIBAO in Chinese 30 Oct 82 p 1 SK]

PINGLU COUNTY GRAIN OUTPUT--Pinglu County, Shanxi Province, has reaped a bumper grain harvest this year. According to statistics, the 119.3 million jin of grain and 10.06 million jin of oil-bearing seeds. Thanks to the bumper harvest resulting from the enactment of production responsibility systems, the county has scored a per capita income of 194 yuan this year, compared with only 20.1 yuan in 1978. Meanwhile, it is expected the county will hand over 15 million jin of grain and 1.5 million jin of oil-bearing seeds to the state this year. [Taiyuan SHANXI RIBAO in Chinese 31 Oct 82 p 1 SK]

BUMPER COTTON HARVEST--Shanxi Province has reaped a bumper cotton harvest this year. By 20 November, the province had procured some 131 million jin of new ginned cotton, which accounted for some 100 percent of the state annual quota and was some 200 percent more than in the corresponding period last year. [Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 24 Nov 82 HK]

YUNCHENG PREFECTURE COTTON HARVEST--This year Yuncheng Prefecture, Shanxi Province, has reaped a good harvest on 1.97 million mu of cotton fields. Total yield of ginned cotton will reach 1.07 million dan and that of marketable cotton will reach 1 million dan. [SK271245 Taiyuan SHANXI RIBAO in Chinese 10 Nov 82 p 1 SK]

YANBEI PREFECTURE OIL-BEARING SEEDS--Yanbei Prefecture, Shanxi Province, has reaped a bumper harvest on 1.13 million mu of oil-bearing seeds fields. Total output has reached 114.49 million jin, an increase of 93.5 percent over 1978. [Taiyuan SHANXI RIBAO in Chinese [no date and page given]

CSO: 4007/67

NOTICE ON 'INDISCRIMINATE' TREE-FELLING DISCUSSED

HK300159 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 29 Nov 82

[Summary] The Sichuan Provincial CCP Committee and government issued a circular on 16 November on implementing the urgent central instructions on curbing indiscriminate tree-felling. The circular pointed out: "Indiscriminate tree-felling has never ceased in some places in the province. In a few places, this practice is even growing more and more rampant. The main reason for this is that the party and government leading organs concerned lack sufficient understanding of the importance of illegal destruction of forests and fail to deal effective blows at it. Some even ignore the matter completely and let things go their own way."

The circular demanded that party committees and government throughout the province seriously study and resolutely implement the urgent central instructions, put a stop to the evil practice of indiscriminate tree-felling and create a new situation in forestry. The circular made the following points:

1. Party committees and government must seriously check on whether indiscriminate tree-felling has been halted. All forest farms, communes and brigades must carry out this check. Cases discovered must be severely dealt with immediately, in the appropriate way.

2. The key to curbing indiscriminate tree-felling lies in the cadres. The cadres, CPC and CYL members must set an example for the masses in observing the law and caring for the forests, and also wage resolute struggle against destruction of forests. Forest destruction cases involving cadres, especially leading cadres, must be severely dealt with.

3. Stabilize the mountain and forest rights and implement the forestry responsibility systems. This is a fundamental measures for curbing indiscriminate tree-felling. This work must be completed and forestry rights certificates issued by yearend.

4. Forestry management work must be strengthened. The procedures for cutting down state-owned and collective trees must be strictly followed. No trees may be cut without permission. Timber free markets may not be opened in forest area counties and communes and in areas bordering forests, and those that have been opened must be closed.

5. The urgent central instructions must be publicized with great fanfare, to ensure that everyone knows them.

CSO: 4007/67

SICHUAN NPC DEPUTY ON RESPONSIBILITY SYSTEM

OW060843 Beijing XINHUA in English 0739 GMT 6 Dec 82

[Text] Beijing, 6 Dec (XINHUA)--Li Linzhi, a deputy from Sichuan Province to the National People's Congress, said here today that the adoption of a responsibility system has been key to the rapid development of China's rural economy in recent years.

Now a vice chairman of the Provincial People's Congress Standing Committee, Li Linzhi worked for 15 years as vice governor of Sichuan in charge of agricultural work.

He told XINHUA that under the responsibility system, collectively-owned land is apportioned among working groups or peasant households, who will work the land in line with the requirements of the state plan, deliver a fixed amount of their products to the state and the collective as is laid down in the contracts they have signed with their collective, and keep the rest of their output. Land remains the property of the collective.

Li Linzhi said this system has given the initiative to the peasants and encouraged them to display their ability to the fullest.

Since the system was introduced on a trial basis in 1978, first in some places, he said, Sichuan's grain output has increased every year and is expected to reach 37 million tons this year, or six percent more than 1981.

Before coming here to attend the National People's Congress, Li Linzhi visited four counties in Sichuan. He found in every household a sizable store of surplus grain. "Cats have become a most welcome animal among the peasants, because the grain storage is drawing an increasing number of mice," he said.

A sample survey of 125 rural production teams in Sichuan shows that the average income for each person there in 1981 was 221 yuan, nearly double that of 1978 or 2.5 times the annual average for the 20 years from 1957 to 1976.

In 1981, Li Linzhi said, each peasant of these production teams consumed an average of 254.5 kg of grain, 15.75 kg of meat, and 2.55 kg of wine.

Meanwhile, total savings deposits throughout Sichuan's rural areas last year were 4.6 times the 1978 figure.

More than ever before, he said, the peasants are eager to improve their farming technique through the study of science.

Sichuan is one of the first provinces in China to introduce the responsibility system in farm production. Since they are now free to arrange their time and work, many peasant households have found time to undertake more side occupations, such as raising poultry or weaving straw mats. Gradually, some of these households began doing such jobs full time. Their skill and efficiency has given them higher income. In Wenjiang Prefecture, some 100 households earned an average income of about 10,000 yuan last year.

Though such households now account only for 8 percent of the total number of peasant households in the prefecture, Li Linzhi said, they represent an embryo of specialized commodity production, which will further invigorate the rural economy.

As production develops, he continued, specialized households have begun joining hands on a voluntary basis to expand production in such areas as bee keeping and flower planting.

"This development is inevitable, because it conforms to the objective laws of economics," Li Linzhi said.

CSO: 4020/31

SICHUAN

BRIEFS

WATER, SOIL CONSERVATION--A Sichuan provincial conference on water and soil conservation was held in Pujiang County from 4 to 9 December. The meeting studied and conveyed the spirit of the fourth national conference on this topic, introduced the experiences of Pujiang and Suining Counties, and discussed and amended the provincial regulations on water and soil conservation. The meeting held: "Sichuan has scored a certain degree of success in water and soil conservation work. However, due to the influence of leftist ideology together with errors in work, forests and vegetation have been seriously damaged, resulting in extremely serious soil erosion in many places. Major flood disasters have occurred in the past 2 years. Failure to grasp water and soil conservation well was one of the reasons for this. Hence, water and soil conservation is indeed a lifeline in construction in mountain and hilly areas, a fundamental measure for harnessing the rivers, and a major aspect of tidying up the land." The meeting demanded that the cadres and masses seriously study and implement the provisions in the new constitution on protecting the ecological environment and natural resources, and strictly adhere to the regulations on water and soil conservation promulgated by the State Council. Departments concerned must closely cooperate to formulate local water and soil conservation plans and also be responsible for carrying them out. The province should strive to change its ecological environment from a vicious to a benign cycle within 10 years. [HK100321 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 9 Dec 82]

AGRICULTURAL PRODUCTION--The provincial statistics bureau estimates that Sichuan has reaped another bumper harvest this year, for the sixth time since the "gang of four" were smashed. Despite a reduction in the sown area of 2 million mu, total grain output is expected to show a new record by reaching 74 billion jin, an increase of 5.3 billion jin over last year. Total rice output is estimated at 35.4 billion jin, an increase of 2.6 billion jin over last year. Wheat production was 12.7 billion jin, an increase of 2.4 billion jin over last year. The biggest production increases were recorded in Mianyang, Nanchong, Neijiang and Wenjiang prefectures, which were hit by severe natural disasters last year. The province scored relatively great increases in industrial crop production, except for cotton, jute and bluish dogbane, the planned sowing areas of which were cut. According to statistics, silk cocoon production reached 1.93 million dan, 7.4 percent higher than last year. Tea output may reach 68,000 dan, a rise of 4.3 percent. The number of pigs at yearend is expected to be about 50.5 million, an increase of 0.5 percent over the same time last year. Total agricultural output value is estimated to show a rise of 1.8 billion yuan--8.5 percent--over last year. [HK020411 Chengdu Sichuan Provincial Service in Mandarin 2315 GMT 1 Dec 82]

JOINT VENTURES DEVELOP--Agricultural-commercial joint ventures in Sichuan Province have developed vigorously. By the end of August, some 130 county supply and marketing cooperatives throughout the province had begun developing agricultural-commercial joint ventures. About 140,000 production teams and specialized groups, some 550,000 specialized households and commune members' sideline households and some 630 commune and brigade enterprises and other production and management units have taken part in agricultural-commercial joint ventures, which now produce fruit, tea, draft cattle, lacquer, bamboo, poultry, fish, mushrooms, pepper and vegetables and process cotton, tinned food, brews and building materials. Through this transformation, production, supply and sale of agricultural and sideline products can be even better coordinated. [HK100532 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 30 Oct 82 HK]

CSO: 4007/67

BRIEFS

WATER PROVISIONS--On 1 November the (Weishan) sluice gate in Liaocheng Prefecture of Shandong Province was lifted 15 days ahead of schedule to deliver Huang He water to Tianjin. According to plans for this autumn and winter, Huang He water is to be delivered to Tianjin from the (Weishan) sluice gate in Liaocheng Prefecture and the (Panzhuang) sluice gate in Dezhou Prefecture of Shandong Province beginning 15 November. [Tianjin City Service in Mandarin 0030 GMT 3 Nov 82 SK]

FORAGE INDUSTRY--Tianjin has made rapid progress in the forage industry. Over the past 3 years, the output and sales volume of mixed feed have increased at an average rate of 71.6 percent annually. Three years ago, the municipal annual production capacity of forage was 32 million jin. By the end of September 1982, Tianjin had 11 medium-sized mixed feed plants. Their annual production capacity was from 3,000 to 5,000 tons. By the end of this year, Tianjin's total production capacity of mixed feed will reach 130 million jin. Three years hence, Tianjin will have 25 medium-sized mixed feed plants and the total annual production capacity will reach 500 million jin. [SK040252 Tianjin City Service in Mandarin 1430 GMT 29 Oct 82 SK]

GRAIN OUTPUT--Combatting 3 consecutive years of droughts, Tianjin city reaped good harvests of grains, cotton and oil-bearing crops. The city's total grain output is approximately 2.4 billion jin, registering an increase of nearly 20 percent over the 1981 figure. The total cotton output is expected to be 9.14 million jin, doubling the 1981 figure. The total output of oil-bearing crops is 84 million jin, showing an increase in per-unit output. The city's total agricultural output is estimated to be approximately 2 billion yuan, a 7-percent increase over 1981. [Tianjin City Service in Mandarin 0030 GMT 3 Dec 82 SK]

RURAL ECONOMY--The rural economy is growing more and more prosperous in Ninghe County, Tianjin Municipality. Ninghe County has reaped bumper harvests in grain, cotton and oil-bearing seeds this year despite serious drought. Grain output totals 250 million jin, an increase of 24 percent over 1981. Output of ginned cotton totals 2.45 million jin and per-unit yield averages 70 jin, a record high. Although the acreage sown to oil-bearing seeds decreased this year, total output still holds the record. It is estimated that total agricultural output value will increase by 16 percent over 1981. This year each peasant owns 937 jin of grain, up 91 jin over 1981. Per capita income will reach 300 yuan, up 70 yuan over 1981. A half of the 60,000 peasant households will have over 1,000 yuan of income. Savings deposits of peasants total 11 million yuan, up 28 percent over 1981. Over the past few years, peasants throughout the county have built 104,000 new houses, accounting for one-third of the total. [Tianjin City Service in Mandarin 0030 GMT 25 Nov 82 SK]

CSO: 4007/67

CIRCULAR ON CURBING TREE-FELLING ISSUED

HK190337 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 18 Nov 82

[Summary] The Xinjiang Regional CPC Committee and government issued a circular on 15 November on implementing the urgent instructions of the Central Committee and State Council on curbing indiscriminate tree-felling.

The circular said: "Since implementing the State Council's urgent circular and the decision of the Central Committee and State Council on a number of questions in protecting the forests and developing forestry, instances of destroying forests for reclaiming land for agriculture or grazing and large-scale indiscriminate tree-felling have been basically curbed. However, the problem of indiscriminate tree-felling remains very serious in some places. There are still problems of failure to observe the forestry protection laws or strictly enforce them, and illegalities and anomalies in timber management. The main reason is that the party and government leaders in some places lack sufficient understanding of the importance of forestry. They hold that as forest rights are not owned by the local authorities, it is no business of those authorities if the forests suffer destruction. Others say, the forest is growing here, and it is natural to cut it down and use it. Hence, they do nothing about indiscriminate tree-felling and illegal elements and speculate in timber. As a result, incidents of forest destruction are tending to spread and develop in some major forestry areas. Unless we take urgent action to deal with these problems, trees that have taken a century to grow will be destroyed in a moment and irreparable damage will be done." The circular, therefore, made the following points:

1. Party committees and government at all levels must get a thoroughly good grasp of implementing the urgent instructions of the Central Committee and State Council. This particularly applies to county CPC committees and governments. Forestry protection work must be strengthened. No matter who owns the forest rights, the local party and government, especially the county CPC committees and governments, have the responsibility to protect and look after the forests. If they fail to do so, the upper-level party committees and governments must investigate the responsibilities of the county leaders.

2. Party discipline inspection departments, the public security departments, procuratorates and courts, and the industry and commerce administrative departments must cooperate with forestry departments in investigating cases of destruction of forests and speculation in timber. Speedy and severe punishment must be dealt out.

3. Do a proper job of defining forest rights, private forest tracts, and forestry responsibility systems. This work should be completed this winter and next spring.

4. Strengthen unified timber management and transport work.

5. Forestry departments must work out plans for closing the mountains to facilitate afforestation and protect the forests.

The circular said: The regional CPC committee and government have decided to dispatch work teams to inspect the implementation of the urgent central instructions in key parts of Xinjiang. The local party committees and governments must cooperate with these teams and help them in their work.

CSO: 4007/67

LIVESTOCK PRODUCTION INCREASE NOTED

OW130946 Beijing XINHUA in English 0801 GMT 13 Nov 82

[Text] Urumqi, 13 Nov (XINHUA)--Xinjiang, one of China's five major pastoral areas, reports a record production of animal meat and other animal products this year.

According to the regional government, as of October 31 this year the region purchased 32,000 tons of meat, 15.8 percent more than the same period last year; 20,000 tons of wool for textile industry, 15 percent increase. In the same time the region exported 150,000 hides, 79 percent increase; 198 tons of cashmere, 32 percent increase; and 19 tons of camel hair, 19 percent increase.

Xinjiang had at the end of the 1982 stockbreeding year (July 1, 1981-June 30, 1982) 34.5 million head of livestock--a record and 1.54 million head or 4.68 percent more than last stockbreeding year. As of June 30, the region had 9.5 million young horses, cattle, camels and sheep, a 3.01-percent increase in the survival rate above 1981.

The regional government said livestock production in Xinjiang has gone up averagely by 4.5 percent each year since 1978 as a result of the new policies that benefit herders, and scientific methods of raising livestock.

Herders in Altay Prefecture have improved the variety of sheep and shortened the period of rearing. As of October 20, the prefecture had sold to the state 5,000 tons of meat, fulfilling the annual quota ahead of schedule.

Encouraged by the new policies, herders in the region have raised more domestic animals for personal needs. The region has 9.24 million head of privately owned livestock this year, an increase of 90 percent above 1978.

To raise more livestock, herders have increased the percentage of dams in the total livestock from 43.2 in 1978 to 45.7 last year. There were 12.93 million dams in the region last year, 20.8 percent more than in 1978.

Xinjiang has 80 million hectares of grassland, of which 50 million hectares or one-fourth of the nation's total can be used to feed domestic animals. Livestock raising in Xinjiang ranks second in the country, next to Inner Mongolia Autonomous Region.

CSO: 4007/67

XINJIANG'S AGRICULTURE, INDUSTRY MAKE ADVANCES

OW151255 Beijing XINHUA in English 1607 GMT 12 Nov 82

[Text] Urumqi, 12 Nov (XINHUA)--China's western-most Xinjiang Uygur Autonomous Region expects a bigger grain crop this year than last, despite inclement weather and natural disasters while cotton and sugarbeet production grew 30 percent and 35 percent.

The region also reports a record number of domestic animals, 29 million, on its vast pasture lands.

Wang Enmao, first secretary of the Regional Party Committee of the Chinese Communist Party, announced the figures Thursday at a conference commending organisations and individuals for contributions to unity among the region's nationalities.

Other achievements he cited for 1982's first nine months include an industrial output value of 3.19 billion yuan, an 8 percent increase from the same period last year, a 2 percent increase in capital construction and good returns in regional financial revenue.

Wang Enmao said the region, with the biggest single administrative area in China, has a bright future because of the work of the past 32 years. He said the region has modern factories and enterprises, producing iron and steel, machinery, coal, electricity, chemical products, cement, nonferrous metal, textiles, paper and other manufactured goods, Xinjiang's industrial have been marketed both nationwide and abroad. [sentence as received]

Wang said the region's 1981 industrial output value was 41.25 times the 1949 figure, while that of agriculture and animal husbandry was 5.33 times, with grain output 4.6 times higher and the number of domestic animals 2.7 times.

Along with development of production and transportation, he said, the region has 903 hospitals, 18.8 times the 1949 figure, and 12 colleges and institutes enrolling 7,900 students.

Wang said Xinjiang is appropriate for industry, agriculture and animal husbandry because of its size, one-sixth of China, and its resources. He called on the region's residents to turn it into a major supplier of cotton, sugarbeet, melon, fruit and domestic animals.

Rich coal anrljtroleum deposits he said, could make Xinjiang (?one) of China's great energy bases by the end of this century.

CSO: 4020/31

BRIEFS

XINJIANG AGROTECHNIQUE TESTING CENTER--Urumqi, 9 Nov (XINHUA)--Construction has been completed for a modern, multi-purpose agrotechnique testing center in Urumqi, capital of Xinjiang Uygur Autonomous Region, XINHUA Learned today. The central laboratory under the Xinjiang Regional Academy of Agricultural Sciences is designed to conduct 250,000 tests a year in the fields of soil science, prevention and control of plant diseases and pests, plant physiology and biochemistry, the seed and animal breeding, according to regional authorities. This is the biggest of its kind in northwest China. The laboratory, equipped with up-to-date facilities, was started with investment from the Ministry of Agriculture, Animal Husbandry and Fishery. A Yugoslav scientific research institute contributed technical advanced in accordance with a Sino-Yugoslav scientific and technical cooperation agreement. [Text] [Beijing XINHUA in English 0814 GMT 9 Nov 82 OW]

CSO: 4020/31

BRIEFS

NEWLY PROSPERING COMMUNE--According to reports by XIZANG RIBAO, Yin Fatang, first secretary of the Xizang Regional CPC Committee, while conducting investigations in Biru County, paid a special visit to the cadres and commune members of the (Mengqing) commune, which shook off poverty in 2 years and changed rapidly from poverty to prosperity. He encouraged them to try their best to become even more prosperous in the spirit of the 12th Party Congress. The (Mengqing) commune used to be the poorest commune in Biru County. By 1980, the commune members owed debts totaling some 19,700 yuan. In order to change this situation, the Nagqu Prefectural CPC Committee, the Biru County CPC Committee and the district CPC committee sent one work group after another to improve work there, but no marked results were obtained. In October 1980, the (Mengqing) commune implemented the production responsibility system of assigning land to each household in exchange for specific levies. This inspired the commune members with the hope of becoming well-off. Their enthusiasm for labor as masters of the commune became higher than ever before. Last year, with the efforts of all the commune members, the average output of the 1,312 mu of contracted land for grain crops in the commune was 159 jin, 13 percent higher than the average output in normal years since the commune was set up. The commune's income from sideline production totaled over 39,000 yuan, some 70 percent more than in 1980. The total income of the commune was 61 percent more than in 1980. Per capita income was 167.89 yuan, which exceeded the average level of the whole county. [Excerpts] [HK100313 Lhasa Xizang Regional Service in Mandarin 1130 GMT 9 Nov 82]

CSO: 4007/67

MEETING CALLS FOR CURBING TREE-FELLING

HK061230 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 5 Dec 82

[Summary] Yesterday evening the Yunnan Provincial CPC Committee and the provincial people's government held a telephone conference on seriously implementing the urgent instruction of the CPC Central Committee and the State Council on curbing indiscriminate tree-felling. The conference put forward measures to curb indiscriminate tree-felling and stressed eliminating the unhealthy trend of indiscriminate tree-felling.

(Liu Shusheng), deputy secretary of the provincial CPC committee, presided over the conference. Zhang Yun, provincial CPC committee Standing Committee member and vice governor, spoke at the conference.

The conference pointed out: "Since the CPC Central Committee and the State Council issued the instruction on curbing indiscriminate tree-felling, the provincial CPC committee and the provincial people's government have organized seven work groups, which have gone to 11 prefectures, autonomous prefectures, municipalities and counties, to conduct supervision and inspections and to help them implement the urgent instruction. In coordination with them, political and legal departments at the provincial level have stepped up investigation and dealing with cases of damaging trees. All prefectures, autonomous prefectures, municipalities and counties have also implemented the instruction, taken various forms to conduct publicity and education in grassroots units, organized forces to deal with cases of damaging trees and taken some necessary measures to curb indiscriminate tree-felling."

In prefectures, autonomous prefectures and municipalities, including Kunming, Qujing and Honghe, and in counties, including Fumin, Lianghe and Fuyuan, leaders have attached importance to the work of curbing indiscriminate tree-felling, worked quickly and taken vigorous measures. Fumin County has basically eliminated the unhealthy trend of indiscriminate tree-felling. "However, judging from the situation of the whole province, the serious situation of indiscriminate tree-felling and of damaging forests has not been completely eliminated, old cases of damaging forests have not been thoroughly investigated and dealt with and new cases of damaging forests have occurred. Free timber markets in many places have not yet been closed down. Lumbering which is not being done in a planned way or is done beyond quotas still continues. Some places have not meted out severe punishments or have not struck vigorous enough blows in cases of apparent sabotage of forests in some places."

The conference stressed that in implementing the urgent instruction, a pressing matter at the moment is to immediately and resolutely curb the unhealthy trend of indiscriminate tree-felling. "In counties where this unhealthy trend cannot be curbed, the responsibility of county CPC committee secretaries, county heads and leaders at the upper levels must be investigated and affixed."

To seriously implement the urgent instruction of the CPC Central Committee and the State Council on curbing indiscriminate tree-felling, in light of the actual situation of the province, the conference put forward the following demands:

1. CPC committees and governments at all levels must further deepen their understanding, unify their thinking, seriously inspect the situation in implementing the urgent instruction some time ago and, in light of the existing problems, take vigorous measures to implement the urgent instruction and the spirit of the circular of the provincial CPC committee and the provincial government.

2. In the course of implementing the urgent instruction, all places must completely deal with the cases of sabotage of forests. In coordination with each other, public security organs, procuratorates, courts and industrial, commercial and forestry departments must immediately go into action and severely and quickly deal with the serious cases, particularly those who are still sabotaging forests.

3. It is necessary to do well in fixing rights of forests, fixing private forests and fixing the forestry production responsibility system. In places where the "three fixes in forestry" have or have not been completed, those who have not lumbered in a planned way or have lumbered beyond their quotas must immediately stop lumbering and make written reports to the provincial CPC committee and the provincial people's government. The timber lumbered above their quotas must be purchased by the provincial forstry department in a unified way and the profits from these sales must all be earmarked as provincial afforestation funds. All free timber markets must be closed down immediately. No units or individuals are allowed to buy or sell timber illegally; otherwise, they will be punished for violating the law of forests.

4. It is imperative to do well in preventing hill fires.

5. CPC committees and governments at all levels must grasp the implementation of the urgent instruction as a current major task and regard the protection of forests and the development of forestry as a long-term task in the future. All prefectures, autonomous prefectures, municipalities and counties must each assign a leading comrade to take charge of this work and to set up a work group with the participation of relevant departments.

The conference demanded that in the coming winter and spring all places do well in curbing indiscriminate tree-felling, in curbing reclamation of land from forests, in preventing hill fires and in the "three fixes in forestry."

CSO: 4007/67

TIE YING PRAISES RESPONSIBILITY SYSTEM

OW052059 Beijing XINHUA Domestic Service in Chinese 1308 GMT 3 Dec 82

[Text] Beijing, 3 Dec (XINHUA)--NPC Deputy Tie Ying spoke at a meeting of the second group of the NPC Zhejiang delegation discussing Premier Zhao Ziyang's report on the Sixth 5-Year Plan.

He said: A lot of work has to be done in order to create a new situation of our economic construction, fulfill the Sixth 5-Year Plan and achieve the strategic objective of quadrupling industrial and agricultural output value. Considering the situation of Zhejiang, we should particularly make more efforts to emancipate our minds and have the courage to reform.

He said: We have had profound experience in agricultural questions. The system of responsibility for production is a breakthrough to create a new situation of agricultural production. It is also a new way to develop agriculture devised by the hundreds of millions of peasants in the course of practice under the guidance of the guidelines of the 3d Plenary Session of the 11th CPC Central Committee. However, many of our comrades at the beginning did not have sufficient understanding of this great creation by the broad masses of peasants. Particularly there were heated disputes over whether it is advisable to implement the system of fixing farm output quotas on a household basis and the system of "bao gan dao hu" [under the unified management of the production team, each household retains everything produced on the land assigned to it after paying taxes and contributing its share to the accumulation and public welfare funds as a member of the collective] in fairly developed agricultural regions. We too had quite a few misgivings. Now the masses' practice has given an affirmative answer to this question--on the question of the system of responsibility for production, the economically more developed regions are "no exception" because the system of responsibility for production by fixing output quotas under a contract can remarkably increased production there as well.

He said: Recently several comrades of the provincial party committee and I visited Jiaxing Prefecture and conducted investigations and studies there. We visited some communes and production brigades and teams of various types. Some of them were in a backward situation for a long time. After they implemented the system of fixing output quotas on a household basis or the system of "bao gan dao hu," they increased the production of everything and improved their situation in a year. Since the implementation of the system of responsibility for production by fixing output quotas under a contract, some high-yield units have further increase their production. All the cadres and people praise the system of responsibility by fixing output quotas under a contract and describe it as "capable of tapping the potential of high-yield brigades and teams, demonstrating its might at low-yield brigades and teams and having great appeal to peasant families." It is like a "magnet" attracting the peasants to march towards becoming "well-to-do."

Tie Ying pointed out: The question concerning the system of responsibility for agricultural production has on the whole been emancipated enough. We still have to further emancipate our minds in order to further develop and perfect the system of responsibility for agricultural production and to reform the economy as a whole. Particularly in industrial and commercial fields, we need to emancipate our minds even more and make determination to reform in order to enliven the economy and create a new situation. At present, commodity circulation in rural areas is choked and sluggish. This conspicuous problem will impede rural economic development if it is not solved.

Ti Ying held: In order to emancipate our minds and have the courage to reform, we must go among the masses to conduct thorough investigations and studies. Since the 3d Plenary Session of the 11th CPC Central Committee, the masses have devised many creations and gained a great deal of experience through practice. This is greatly helpful to us in further emancipating our minds, widening our views and stimulating our thinking. At present, the leading organs at all levels in our province are formulating plans and studying how to achieve the strategic objective of quadrupling industrial and agricultural output value. The planners must go among the masses to conduct investigations and studies. It is meaningless if they just consult past data, reason according to the past growth rate of total industrial and agricultural output value, or merely ask the lower levels to abide by the demand for "quadrupling the output value" put forward by the 12th CPC National Congress. In this way, they will be unable to work out any inspiring and feasible plans.

Tie Ying said: When formulating agricultural development plans, some comrades rely only on past data to consider questions and fail to take into full account enthusiasm fired among the masses since the implementation of the responsibility system. Therefore, they always think that it is very difficult to make great developments in agriculture. They even lack the confidence that our agricultural production can be restored to the 1979 level. In fact, the agricultural growth in some localities in recent years is much bigger than in the past. During my recent investigation tour in Jiaxing Prefecture, I gathered some contrasting materials. I think that they are quite convincing. One is contrasting material on grain production between Tiaonan commune and Zhenxi commune in Huzhou Municipality, between Zhongjiabing production brigade and Xiaohengjie production brigade under Shanxi commune in Jiashan County, and between 59 production teams of Xiaocun commune in Tongxiang County and 85 other production teams in the same commune. While their production conditions are basically the same, the per-mu grain yield of those implementing the system of fixing output quotas under a contract is generally about 200 jin bigger than others working under contract for small sections of land. Another is contrasting material on silk cocoon production. The silk cocoon production of Huzhou Municipality this year increased by 12 percent compared with last year; however, the rates of increase in Huzhou's Tangnan, Tiaonan and Zhacun communes, that implement the system of fixing silk cocoon output quotas on the individual basis, are 50.4 percent, 36.3 percent and 30.4 percent respectively, larger than the municipality's average rate of increase. The third is contrasting material on inland pond fish breeding. On an average, the fish production of Xiaang commune in Huzhou Municipality increased by 16.5 percent this year, but seven of its production teams that have contracted fish ponds to commune members' families yielded a 60 to 70 percent increase. These facts show that even the more developed agricultural regions also have great potential to increase production. The thing is, we must eliminate "leftist" influence, adopt an ideological line of seeking truth from facts and raise our consciousness in implementing the line, principles and policies laid down since the 3d Plenary Session of the 11th CPC Central Committee. This is an indispensable subjective condition for fulfilling the Sixth 5-Year Plan and achieving the strategic objective of quadrupling industrial and agricultural output value.

CSO: 4007/67

BRIEFS

JIAXING PREFECTURE PROCUREMENT--By 10 November, Jiaxing Prefecture, Zhejiang, had procured 2,376,800 hogs and 10,140,000 jin of eggs, overfulfilling the annual procurement plan 50 days ahead of schedule. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 19 Nov 82 OW]

CSO: 4007/67

CENTRAL GROUP TO INVESTIGATE GUANXI FOREST CASE

HK170801 Hong Kong WEN WEI PO in Chinese 17 Nov 82 p 3

[Special dispatch by Tai Bo [1132 0130]: "Central Discipline Inspection Commission Work Group Arrives Nanning To Investigate Looting of Forest Farm"]

[Text] Nanning--A work group of the Central Discipline Inspection Commission led by Cheng Xin, a cadre at the ministry level, arrived in Nanning early in November. The group will help the Guangxi Regional People's Government's serious investigations and deal with a case which occurred in the Gaofeng Forest Farm. Over the past year or so, many state-owned forest trees in this farm have been looted and a large area of forest has been destroyed.

The Gaofeng Forest Farm, which covers an area of 640,000 mu, is one of Guangxi's major artificial forest bases. It has 460,000 mu of artificial pine and fir forest. Since the second half of 1979, the trees in this farm have been continuously looted by nearby communes and brigades. In a branch farm at the Taiping commune, Wuming County, alone, nearly 6,000 mu of forest has been looted and damaged, and the forest guards have often been scolded, beaten and threatened by the looters.

What is more serious is that the looting of the Gaofeng State Forest Farm was led and organized by some county, commune and brigade cadres in Wuming County. In April and June this year, some party members and cadres in the office in charge of the work concerning commune and brigade enterprises in Taiping Commune, Wuming County, together with some party members and cadres of Wenxi and Tonggui brigades, employed more than 90 laborers from other areas and brazenly felled large numbers of full-grown trees in the Aisha branch farm with the diesel-powered circular saw they had installed. They then processed the timber for on-the-spot sale.

How could these people dare to ignore state law? It is because some leaders of the Wuming County CPC committee and people's government supported, encouraged and provoked them. At a meeting to discuss the disputes between the forest farm and nearby communes and brigades, one of this county's chief cadres went so far as to call for continuous looting of state-owned forests. He beat his breast and said: "Do not be afraid! I will be responsible for all that might happen. If anyone is to be imprisoned, I will be the one!" It was discovered through investigation that this responsible cadres [words indistinct] "rebellion" during the Cultural Revolution. In 1974, he wrote some vicious articles to criticize the capitalist roaders and, for this, he was sent to study in the Hongqi editorial office, which was then controlled by Yao Wenyuan. In 1975, he returned to Guangxi and was promptly appointed by some people deputy chief editor (second in command) of GUANGXI RIBAO. He was a most active henchman in the movement to "criticize Deng Xiaoping" and to counter the rightist deviationist trend to reverse correct verdicts. After the fall of the "gang of four," since there were too many reproaches concerning his promotion, some people had to transfer him to the county level and let him take up his present post in Wuming County, so that he would be able to be "promoted step by step" again "in the future." The masses have a deep hatred for these people who rose to prominence through rebellion and who have neither learning nor skill. They strongly demand an investigation and the assigning of responsibility for the criminal case which occurred in the Gaofeng Forest Farm.

CSO: 4007/67 END